SCAG
POWER EQUIPMENT

OPERATOR'S MANUAL

SWZT
Walk-Behind

Model: SWZT36-481FS
SWZT48-541FS

Congratulations on owning a Scag mower! This manual contains the operating instructions and safety information for your Scag mower. Reading this manual can provide you with assistance in maintenance and adjustment procedures to keep your mower performing to maximum efficiency. The specific models that this book covers are listed on the inside cover. Before operating your machine, please read all the information enclosed.

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Division of Metalcraft of Mayville, Inc.

PART NO. 03332
PRINTED 3/2013
PRINTED IN USA

⚠ WARNING

FAILURE TO FOLLOW SAFE OPERATING PRACTICES MAY RESULT IN SERIOUS INJURY OR DEATH.

- Read this manual completely as well as other manuals that came with your mower.
- ALWAYS FOLLOW OSHA APPROVED OPERATION.
- DO NOT operate on steep slopes.
- Always travel across slopes.
- DO NOT mow on wet grass. Wet grass reduces traction and steering control.
- Keep all shields in place, especially the grass discharge chute.
- Before performing any maintenance or service, stop the machine and remove the spark plug wire and ignition key.
- If a mechanism becomes clogged, stop the engine before cleaning.
- Keep hands, feet and clothing away from power-driven parts.
- Keep others off the mower (only one person at a time)

REMEMBER - YOUR MOWER IS ONLY AS SAFE AS THE OPERATOR!

HAZARD CONTROL AND ACCIDENT PREVENTION ARE DEPENDENT UPON THE AWARENESS, CONCERN, PRUDENCE, AND PROPER TRAINING OF THE PERSONNEL INVOLVED IN THE OPERATION, TRANSPORT, MAINTENANCE, AND STORAGE OF THE EQUIPMENT.

This manual covers the operating instructions and illustrated parts list for:		
SWZT36-481FS	with a serial number of	J3400001 to J3499999
SWZT48-541FS	with a serial number of	J3500001 to J3599999
Always use the entire serial number listed on the serial number tag when referring to this product.		

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GENERAL INFORMATION

1.1 INTRODUCTION

Your mower was built to the highest standards in the industry. However, the prolonged life and maximum efficiency of your mower depends on you following the operating, maintenance and adjustment instructions in this manual.

If additional information or service is needed, contact your Scag Power Equipment Dealer.

We encourage you to contact your dealer for repairs. All Scag dealers are informed of the latest methods to service this equipment and provide prompt and efficient service in the field or at their service shop. They carry a full line of Scag service parts.

- IMPORTANT -

The replacement of any part on this product by other than the manufacturer's authorized replacement part may adversely affect the performance, durability or safety of this product.

Use of other than original Scag replacement parts will void the warranty.

When ordering parts, always give the model and serial number of your mower. The serial number plate is located on the frame of the machine near the engine and hydraulic pump as shown in Figure 1-1.

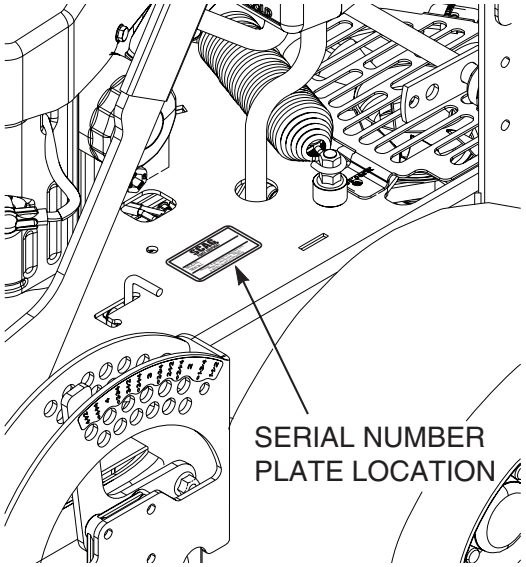


Figure 1-1. Mower Serial Number Plate Location

USE ONLY SCAG APPROVED ATTACHMENTS AND ACCESSORIES.

Attachments and accessories manufactured by companies other than Scag Power Equipment are not approved for use on this machine. See Section 8-1.

⚠ WARNING

For pictorial clarity, some illustrations and figures in this manual may show shields, guards or plates open or removed. Under no circumstances should your mower be operated without these devices in place.

All information is based upon product information available at the time of approval for printing. Scag Power Equipment reserves the right to make changes at any time without notice and without incurring any obligation.

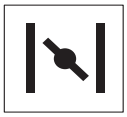
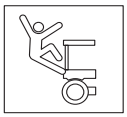
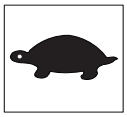
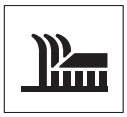
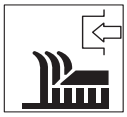
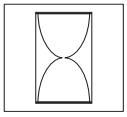
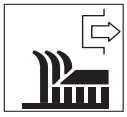
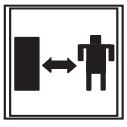
1.2 DIRECTION REFERENCE

The “Right” and “Left”, “Front” and “Rear” of the machine are referenced from the operator’s right and left when in the normal operating position and facing the forward travel direction.

1.3 SERVICING THE ENGINE AND DRIVE TRAIN COMPONENTS

The detail servicing and repair of the engine and transmission are not covered in this manual; only routine maintenance and general service instructions are provided. For service of these components during the limited warranty period, it is important to contact your Scag dealer or find a local authorized servicing agent of the component manufacturer. Any unauthorized work done on these components during the warranty period may void your warranty.

1.4 SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	Choke		Transmission
	Parking Brake		Spinning Blade
	On/Start		Spring Tension on Idler
	Off/Stop		Oil
	Falling Hazard		Thrown Object Hazard
	Fast		Slow
	Continuously Variable - Linear		Cutting Element - Basic Symbol
	Pinch Point		Cutting Element - Engage
	Hour meter/Elapsed Operating Hours		Cutting Element - Disengage
	Keep Bystanders Away		Read Operator's Manual

SAFETY INFORMATION

2.1 INTRODUCTION

Your mower is only as safe as the operator. Carelessness or operator error may result in serious bodily injury or death. Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of the personnel involved in the operation, transport, maintenance and storage of the equipment. Make sure every operator is properly trained and thoroughly familiar with all of the controls before operating the mower. The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

READ THIS OPERATOR'S MANUAL BEFORE ATTEMPTING TO START YOUR MOWER.

A replacement manual is available from your authorized Scag Service Dealer or by contacting Scag Power Equipment, Service Department at P.O. Box 152, Mayville, WI 53050 or contact us via the Internet at www.scag.com. The manual for this machine can be downloaded by using the model and serial number or use the contact form to make your request. Please indicate the complete model and serial number of your Scag product when requesting replacement manuals.

2.2 SIGNAL WORDS

This symbol means **"Attention! Become Alert! Your Safety is Involved!"** The symbol is used with the following signal words to attract your attention to safety messages found on the decals on the machine and throughout this manual. The message that follows the symbol contains important information about safety. To avoid injury and possible death, carefully read the message! Be sure to fully understand the causes of possible injury or death.

SIGNAL WORD:

It is a distinctive word found on the safety decals on the machine and throughout this manual that alerts the viewer to the existence and relative degree of the hazard.

⚠ DANGER

The signal word "DANGER" denotes that an extremely hazardous situation exists on or near the machine that could result in high probability of death or irreparable injury if proper precautions are not taken.

⚠ WARNING

The signal word "WARNING" denotes that a hazard exists on or near the machine that can result in injury or death if proper precautions are not taken.

⚠ CAUTION

The signal word "CAUTION" is a reminder of safety practices on or near the machine that could result in personal injury if proper precautions are not taken.

Your safety and the safety of others depends significantly upon your knowledge and understanding of all correct operating practices and procedures of this machine.

2.3 BEFORE OPERATION CONSIDERATIONS

⚠ WARNING

Check all hydraulic connections for tightness. Inspect all hydraulic hoses and / or lines to insure they are in good condition before operating.

1. NEVER allow children to operate this mower. Do not allow adults to operate this machine without proper instructions.
2. Do not mow when children and/or others are present. Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator. Be alert and turn machine off if a child enters the area.

3. DO NOT allow children to ride or play on the machine, it is not a toy.
4. Clear the area to be mowed of objects that could be picked up and thrown by the cutter blades.
5. DO NOT carry passengers.
6. DO NOT operate the machine under the influence of alcohol or drugs.
7. If the operator(s) or mechanic(s) cannot read English or Spanish, it is the owner's responsibility to explain this material to them. A Spanish decal kit is available for this model. See your local Scag Dealer.
8. DO NOT wear loose fitting clothing. Loose clothing, jewelry or long hair could get tangled in moving parts. Do not operate the machine wearing shorts; always wear adequate protective clothing including long pants. Wearing safety glasses, safety shoes and a helmet is advisable and is required by some local ordinances and insurance regulations.

⚠ WARNING

Always wear hearing protection. Operating this machine over prolonged periods of time can cause loss of hearing.

9. Keep the machine and attachments in good operating condition. Keep all shields and safety devices in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operating the machine.

⚠ WARNING

This machine is equipped with an interlock system intended to protect the operator and others from injury. This is accomplished by preventing the engine from starting unless the deck drive is disengaged and the transmission is in neutral. The system shuts off the engine if the operator releases the operator pressence levers with the deck drive engaged and/or the transmission is not in neutral. Never operate equipment with the interlock system disconnected or malfunctioning.

10. Be sure the interlock switches are functioning correctly.
11. Fuel is flammable; handle it with care. Fill the fuel tank outdoors. Never fill it indoors. Use a funnel or spout to prevent spillage. Clean up any spillage before starting the engine.
12. DO NOT add fuel to a running or hot engine. Allow the engine to cool for several minutes before adding fuel. Never fuel indoors or inside enclosed trailers.
13. Keep flammable objects (cigarettes, matches, etc.), open flames and sparks away from the fuel tank and fuel container. Use only approved containers.
14. See Section 7.4 ENGINE FUEL SYSTEM for fueling procedure.
15. Equipment must comply with the latest requirements per SAE J137 and/or ANSI/ASAE S279 when driven on public roads.
16. Do not operate without the side discharge chute installed and in the down position or with an optional grass catcher or mulch plate completely installed.
17. Check the blade mounting bolts at frequent intervals for proper tightness.

2.4 OPERATION CONSIDERATIONS

1. Know the function of all controls and how to stop quickly.

⚠ WARNING

DO NOT operate on steep slopes. ALWAYS FOLLOW OSHA APPROVED OPERATION.

2. Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing directions on slopes.
3. To prevent tipping or loss of control, start and stop smoothly, avoid unnecessary turns and travel at reduced speed.
4. Immediately apply the parking brake if you lose steering control while operating. Inspect the machine and correct the problem before continuing to operate.
5. When using any attachment, never direct the discharge of material toward bystanders or allow anyone near the machine while in operation.

6. Start the engine when the neutral latches are in the neutral lock position, the cutter blades are disengaged, parking brake is engaged and the speed control lever is in neutral.
7. If the mower discharge ever plugs, shut off the engine, remove the ignition key, and wait for all movement to stop before removing the obstruction.

⚠ WARNING

DO NOT use your hand to dislodge the clogged discharge chute. Use a stick or other device to remove clogged material after the engine has stopped running and the blades have stopped turning.

8. Be alert for holes, rocks, roots and other hidden hazards in the terrain. Keep away from any drop-offs. Beware of overhead obstructions (low limbs, etc.), underground obstacles (sprinklers, pipes, tree roots, etc.). Cautiously enter a new area. Be alert for hidden hazards.
9. Disengage power to cutter deck before backing up. Do not mow in reverse unless absolutely necessary and then only after observation of the entire area behind the mower. If you must mow in reverse, maintain a constant lookout to the rear of the machine and mow slowly.
10. DO NOT turn sharply. Use care when backing up.
11. Disengage power to cutter deck before crossing roads, walks or gravel drives.
12. Mow only in daylight or good artificial light.
13. NEVER raise the deck with the blades engaged.
14. Take all possible precautions when leaving the machine unattended, such as disengaging the mower, stopping the engine, and removing the key.
15. Disengage power to the attachments when transporting or when not in use.
16. The machine and attachments should be stopped and inspected for damage after striking a foreign object, and damage should be repaired before restarting and operating the machine.

⚠ CAUTION

Do not touch the engine or the muffler while the engine is running or immediately after stopping. These areas may be hot enough to cause a burn.

⚠ DANGER

DO NOT run the engine inside a building or a confined area without proper ventilation. Exhaust fumes are hazardous and contain carbon monoxide which can cause brain injury and death.

17. Keep hands and feet away from cutter blades and moving parts. Contact can injure.
18. Transport the mower using a heavy duty trailer or truck. Insure the trailer or truck has all of the necessary lighting and markings as required by laws, codes, and ordinances. Secure a trailer with a safety chain.
19. Be cautious when loading and unloading onto trailers or trucks. Use only a full width ramp.
20. When transporting the mower, make sure the speed control lever is in neutral, the neutral latches are in the neutral lock position, the engine is off with the key removed, the parking brake is engaged and the wheels have been blocked.
21. Tie the mower down securely using straps, chains, cable, or ropes. Both front and rear straps must be directed down and outward from machine.
22. Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
23. NEVER leave the machine running unattended.

2.5 MAINTENANCE CONSIDERATIONS & STORAGE

1. Never make adjustments to the machine with the engine running unless specifically instructed to do so. If the engine is running, keep hands, feet, and clothing away from moving parts.
2. Place the speed control lever in neutral, engage the parking brake, neutral latches in the neutral lock position, stop engine and remove key or disconnect spark plug wire to prevent accidental starting of the engine when servicing or adjusting the machine. Wait for all movement to stop before adjusting, cleaning or repairing.
3. Remove spark plug wire before making any repairs.
4. Keep all nuts, bolts and screws tight, to ensure the machine is in safe working condition. Check blade mounting bolts frequently to be sure they are tight.
5. Do not change the engine governor settings or overspeed the engine. See the engine operator's manual for information on engine settings.
6. To reduce fire hazard, keep the cutting units, drives, muffler and engine free of grass, leaves, excessive grease, oil and dirt.
7. Park the machine on level ground.
8. NEVER allow untrained personnel to service the machine.
9. Use care when checking blades. Use a Blade Buddy, wrap the blade(s) or wear gloves and USE CAUTION when servicing blades. Only replace blades. NEVER straighten or weld blades.
10. Keep all parts in good working condition. Replace all worn or damaged decals.
11. Use jack stands to support components when required.
12. Carefully release pressure from components with stored energy.

⚠ WARNING

Hydraulic fluid is under high pressure and can penetrate skin causing injury. If hydraulic fluid is injected into the skin, it must be surgically removed within a few hours by a doctor or gangrene may result.

Keep body and hands away from pinholes or nozzles that eject hydraulic fluid under high pressure.Use paper or cardboard and not hands to search for leaks.

Safely relieve all pressure from the hydraulic system by placing the control levers in the neutral lock position and shutting off the engine before performing any work on the hydraulic system.

If you need service on your hydraulic system, please see your authorized Scag dealer.

13. Let the engine cool before storing.
14. DO NOT store the machine near an open flame.
15. Shut off fuel while storing or transporting.
16. DO NOT store fuel near flames or drain indoors.

2.6 USING A SPARK ARRESTOR

The engine in this machine is not equipped with a spark arrestor muffler. It is in violation of California Public Resource Code Section 4442 to use or operate this engine on or near any forest covered, brush covered or grass covered land unless the exhaust system is equipped with a spark arrestor meeting any applicable local or state laws. Other states or federal areas may have similar laws. Check with your state or local authorities for regulations pertaining to these requirements.

2.7 SPARK IGNITION SYSTEM

This spark ignition system complies with Canadian ICES-002.

2.8 SAFETY AND INSTRUCTIONAL DECALS

WARNING

DO NOT OPERATE WITHOUT DISCHARGE CHUTE, MULCHING KIT, OR ENTIRE GRASS CATCHER INSTALLED

483405

483405

WARNING

INSTALL BELT COVER BEFORE OPERATING MACHINE

READ OPERATOR'S MANUAL

483402

WARNING

ROTATING BLADES AND BELTS

* Keep hands, feet & clothing clear
* Keep all guards in place
* Shut off engine & disengage blade clutch before servicing
* Use caution in directing discharge
* Read instruction manual before operating

DO NOT OPERATE UNLESS GRASS CATCHER, MULCHING KIT OR DISCHARGE CHUTE IS INSTALLED

483406

483406

DANGER

SPINNING BLADES

KEEP CLEAR

BLADE CONTACT & THROWN OBJECTS CAN INJURE

483505

483505

WARNING

Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

483900

483900
(supplied with California models only)

MOUNT RIDING ATTACHMENT HERE

WARNING

FALLING HAZARD
USE ONLY SCAG APPROVED RIDING ATTACHMENTS
SEE OPERATOR'S MANUAL 483404

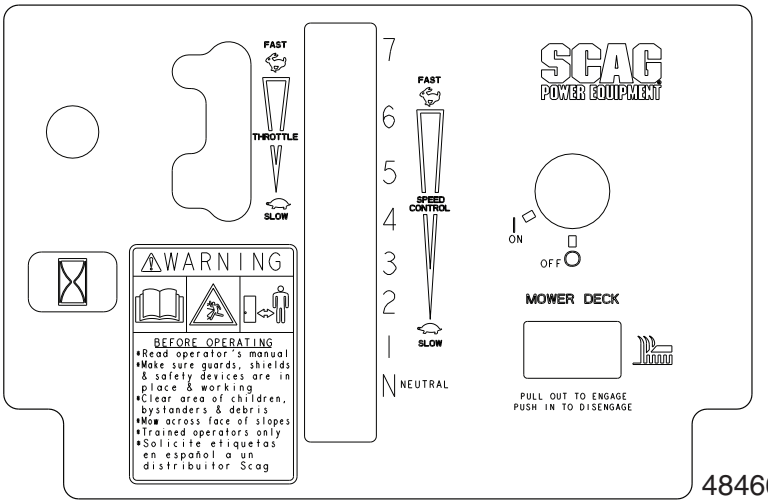
483404

DANGER

Avoid injury from burns
- Shut off engine
- Allow to cool several minutes
- Remove cap slowly
- Do not overfill

EPACentroRLP / Q-08-027A 484377

Molded in Fuel Tank



484662

2013 SWZT Safety Decals

SPECIFICATIONS

3.1 ENGINE

General Type ..... Heavy Duty Industrial/Commercial Gasoline
Brand ..... Kawasaki
Engine Model:
(Scag Model SWZT36-481FS) ..... Kawasaki Model # FS481V
(Scag Model SWZT48-541FS) ..... Kawasaki Model # FS541V
Displacement:
Kawasaki FS481V 603cc
Kawasaki FS541V 603cc
Cylinders ..... 2 with Cast-Iron Sleeves - Kawasaki
Governor ..... Mechanical Type with Variable Speed Control Set At 3600 RPM (+/- 100 RPM)
Idle Speed:
Kawasaki ..... 1550 RPM (+/- 150 RPM)
Fuel ..... Non-Leaded Gasoline with a Minimum Octane Rating of 87
Oil Pump ..... varies - see engine manufacturer's specifications
Starter:
Kawasaki ..... Recoil Start

3.2 ELECTRICAL

Starter ..... Electrical Ignition with Recoil Starter
Interlock Switches ..... Operator Presence, Mower Engagement (BBC), Transmission Neutral
Instrument Panel ..... Key Switch, Throttle Lever, Choke Control, PTO Switch, Hour Meter

3.3 ENGINE DECK

Drive System ..... Hydraulic Drive with Two Hydro-Gear™ Integraded Zero-Turn Axles
Scag Model (SWZT36-481FS, SWZT48-541FS) ..... Hydro-Gear™ ZT-2800
Steering/Travel Control ..... Independent Handle Controls for each wheel, squeeze to move from forward to neutral to reverse, neutral lock lever, speed range controlled with single lever (patented design)
Parking Brake ..... Lever Actuated Linkage to Brakes on Both Drive Wheel Axles
Wheels:
(2) Front Caster ..... 9 X 3.5-4 Pneumatic Tubeless, w/Roller Bearings
(2) Drive - ..... 18 x 6.5-8 (36) or 18 x 8.5-8 (48) Four-Ply Pneumatic Tubeless, Radius Edge
Tire Pressure:
Front Caster ..... Flat Free
Drive ..... 12 PSI
Fuel Tank ..... 5-1/2 Gallon Seamless Polyethylene Tank with Large Opening and Fuel Cap
Travel Speed:
Forward ..... 0 up to 7 MPH
Reverse ..... 0 up to 3 MPH
-NOTE- The machine will travel at 7 mph for transport purposes. For best cutting performance the forward travel speed should be adjusted depending upon the cutting conditions.

3.4 CUTTER DECK

Type ..... Out-Front design
Construction ..... 10-Gauge top with 11-Gauge reinforcement throughout the spindle area, 7-Gauge skirt for strength and longevity

True Cutting Width:
36 ..... 35.5" (90.2 cm)
48 ..... 48" (122.0 cm)
Cutting Height Adjustment ..... Adjustment from, 1-1/2" to 4-1/2" in 1/4"increments
Cutter Blades ..... 0.197 in. Thick, Milled Edge, Wear Resistant Marbain™
Blade Engagement ..... Electric Blade Engagement Clutch with Control Panel Switch Connected to the Cutter Deck through a Belt.
Discharge Opening ..... Extra Wide Discharge Opening with Spring-Loaded Discharge Chute
Discharge Chute ..... Black, Polypropylene (Plastic), Flexible
Spindles ..... Heavy-Duty Spindle Shaft, Cast Aluminum Housing, Sealed Ball Bearing, Maintenance-Free
Spindle Pulleys ..... Split Steel
Cutter Deck Belts ..... B-section with Kevlar Cord. Self-Adjusting, Self-Tightening
Electric Clutch Type ..... Ogura Heavy Duty PTO Clutch Brake

3.5 WEIGHTS AND DIMENSIONS

	36	48
Length	75-1/2"	75-1/2"
Tracking Width	36-1/4"	41-1/2"
Overall Width w/chute down	48-1/2"	60-1/2"
Overall Width w/chute up	37"	49"
Overall Height	44"	44"
Operating Weight	550#	585#

3.6 PRODUCTIVITY

	36	48
Cutting Width	36"	48"
Acres Per Day	9.3	12.4

The preceding chart will aid you in determining how many acres your Scag mower will cut per day. The chart is an estimate based on 8 hours per day cutting time at 4 MPH with a 20% allowance for overlap and turns.

OPERATING INSTRUCTIONS

⚠ CAUTION

Do not attempt to operate this mower unless you have read this manual. Learn the location and purpose of all controls and instruments before you operate this mower.

4.1 CONTROLS AND INSTRUMENT IDENTIFICATION

Before operating the mower, familiarize yourself with all mower and engine controls. Knowing the location, function and operation of these controls is important for safe and efficient operation of the mower.

1. **Ignition Switch (Figure 4-1).** The ignition switch is used to start the engine. Turn the key to the on position before pulling the recoil starter.
2. **Mower Deck Switch (Figure 4-1).** Used to engage and disengage the mower drive system. Pulling up on the switch will engage the deck drive. Pushing down on the switch will disengage the deck drive.
3. **Engine Choke Control (Figure 4-1).** Used to start a cold engine.
4. **Engine Throttle Control (Figure 4-1).** Used to control the engine speed. Pushing the lever forward increases engine speed. Pulling the lever back decreases engine speed. Full back position is the IDLE position. Full forward is the cutting position.
5. **Left Steering Control (Figure 4-1).** Used to control the mower's left wheel when traveling forward or reverse. Pull upward for neutral and reverse.
6. **Right Steering Control (Figure 4-1).** Used to control the mower's right wheel when traveling forward or reverse. Pull upward for neutral and reverse.

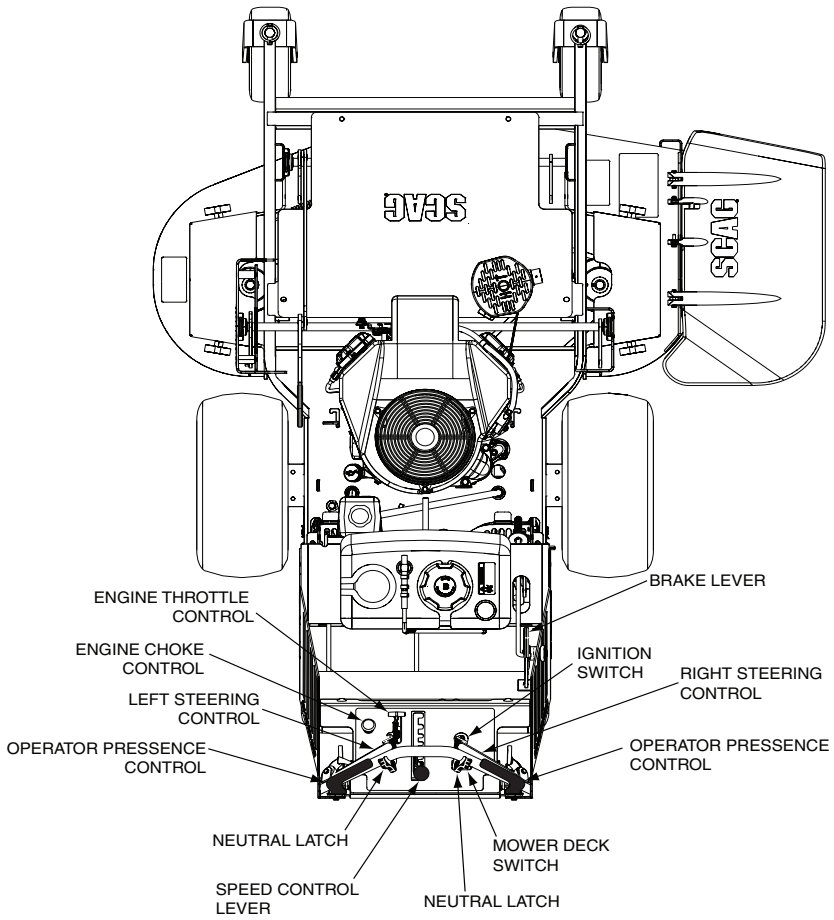


Figure 4-1. Controls and Instruments

7. **Speed Control Lever (Figure 4-1).** Used to select the forward speed.
8. **Neutral Latch (Figure 4-1).** Used to secure the hydraulic drive system in neutral. Apply neutral latches when parking the machine.
9. **Operator Presence Control (Figure 4-1)** The operator pressence control levers must be depressed before the speed control lever is shifted out of neutral or engaging the mower deck.
10. **Parking Brake Lever (Figure 4-1)** Used to engage and disengage the parking brake. Pull the lever back to engage the parking brake. Push the lever forward to disengage the parking brake.

4.2 SAFETY INTERLOCK SYSTEM

The mower is equipped with a safety interlock system that shuts off the engine if the operator releases the operator presence levers with the deck drive engaged and/or the speed control lever not in neutral or the parking brake disengaged. Never operate equipment with the interlock system disconnected or malfunctioning.

⚠ WARNING

Never operate the mower with the interlock system disconnected or malfunctioning. Do not disengage or bypass any switch; injury to yourself and others or property damage could result.

4.3 INITIAL RUN-IN PROCEDURES

FIRST DAY OF USE OR APPROXIMATELY 20 HOURS

1. Check all belts for proper alignment and wear at 2, 4 and 8 hours.
2. Change the engine oil and oil filter after the first 20 hours of operation. (See Section 7.4.)
3. Check for loose hardware. Tighten as needed.
4. Check interlock system for proper operation. (See Section 4.2.)
5. Check tire pressure. Adjust pressure if necessary. (See Section 7.8.)

4.4 STARTING THE ENGINE

⚠ CAUTION

DO NOT USE STARTING FLUIDS. Use of starting fluids in the air intake system may be potentially explosive or cause a "runaway" engine condition that could result in engine damage and/or personal injury.

1. Be sure the fuel shutoff valve, located by the fuel tank, is completely open. (See Section 7.5.)
2. Apply the neutral latch levers.
3. Shift the speed control lever into neutral.
4. Place the PTO switch in the disengaged position.
5. Apply the parking brake.
6. If the engine is cold, choke the engine as needed.
7. Move the engine throttle control to about half engine speed.
8. Turn the ignition key to the ON position.
9. Pull the recoil starter on the engine.
10. Allow engine to warm before operating the mower.

4.5 GROUND TRAVEL AND STEERING

- IMPORTANT -

If you are not familiar with the operation of a walk behind mower with a hydrostatic transmission, the steering and ground speed operations should be learned and practiced in an open area, away from buildings, fences, or obstructions.

Learn the operation on flat ground before operating on slopes.

Start practicing with a slow engine speed and slow forward travel.

Learn to feather the steering controls to obtain a smooth operating action.

Practice operating the mower until you are comfortable with the controls before proceeding to mow.

FORWARD TRAVEL

To travel forward with the mower, depress the operator presence control, release the parking brake, select the desired speed using the speed control lever, pull steering control levers upward, release the neutral latch for both sides and slowly release both the left and right steering control levers. The higher the notch selected using the speed control lever, the faster the machine will travel.

To stop the forward travel, pull upward on the steering control levers, lock the neutral latches, shift the speed control lever into neutral and apply the parking brake.

To steer the mower left while traveling forward, pull upward on the left steering control lever. The further the lever is pulled upward, the quicker the mower will turn left.

To steer the mower right while traveling forward, pull upward on the right steering control lever. The further the lever is pulled upward, the quicker the mower will turn right.

- NOTE -

Smooth operation of the steering control levers will produce smooth mower operation. While learning the operation of the steering controls, keep the travel speed low.

REVERSE TRAVEL

⚠ CAUTION

Disengage power to the mower before backing up. Do not mow in reverse unless absolutely necessary and then only after observation of the entire area behind the mower.

⚠ CAUTION

Before backing up, observe the rear for persons and obstructions. Clear the area before backing up. Possible injury or property damage could occur.

To travel in reverse, pull steering control levers upward. Keep the travel speed low while traveling in reverse.

- NOTE -

The mower may not travel straight in reverse.

To steer left while traveling in reverse, pull upward on the right steering control lever. The further the lever is pulled upward, the quicker the mower will turn left.

To steer right while traveling in reverse, pull upward on the left steering control lever. The further the lever is pulled upward, the quicker the mower will turn right.

4.6 ENGAGING THE DECK DRIVE (CUTTER BLADES)

1. Set the throttle at about 3/4 speed. Do not attempt to engage the deck drive at high speed as this shortens the electric clutch life — use only moderate engine speed when engaging the deck drive.
2. Engage the deck drive by pulling out on the yellow switch, located on the instrument panel, to the engage position. See Figure 4-2.

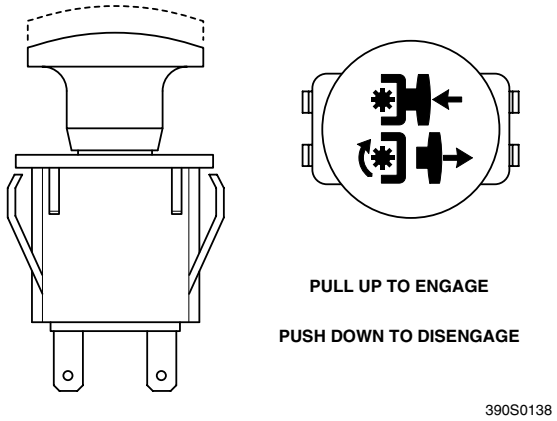


Figure 4-2. Cutter Engage Switch

- NOTE -

A squealing noise may be heard when engaging or disengaging the deck drive. It is caused by the electric clutch plates meshing as the mower comes up to speed. This is normal.

3. To disengage the deck drive, push the switch in to the disengage position.
4. Always operate the engine at full throttle to properly maintain cutting speed. If the engine starts to lug down, reduce the forward speed and allow the engine to operate at maximum RPM.

4.7 HILLSIDE OPERATION

⚠ WARNING

DO NOT operate on steep slopes. ALWAYS FOLLOW OSHA APPROVED OPERATION.

1. This mower has been designed for good traction and stability under normal mowing conditions. However, caution must be used when traveling on slopes, especially when the grass is wet. Wet grass reduces traction and steering control.
2. To prevent tipping or loss of control, do not start or stop suddenly, avoid unnecessary turns and travel at reduced speed. If tires lose traction, disengage blades and proceed slowly off the slope.
3. Avoid sudden starts when mowing on slopes.
4. Travel across the slope whenever possible. Never up and down the slope.
5. Keep tires properly inflated.

4.8 PARKING THE MOWER

1. Park the machine on a flat, level surface only. Do not park the machine on an incline.
2. Disengage the cutter blades.
3. Shift the speed control lever into the neutral position, lock the neutral latches and apply the parking brake.
4. Slow the engine to idle speed.
5. Turn the ignition key to the OFF position and remove the key.

4.9 AFTER OPERATION

1. Wash the entire mower after each use. Do not use high pressure spray or direct the spray onto electrical components.

- IMPORTANT -

Do not wash a hot or running engine. Cold water will damage the engine. Use compressed air to clean the engine if it is hot.

2. Keep the entire mower clean to inhibit serious heat damage to the engine or hydraulic oil circuit.
3. Check the drive belts for proper alignment and any signs of wear. Correct and adjust if necessary.

⚠ DANGER

To avoid injury from burns, allow the mower to cool before removing the fuel tank cap and refueling.

4. After the mower has cooled down, fill the fuel tank with fresh, clean fuel at the end of every day of operation. See Engine Owner's Manual for proper octane requirements.
5. Check the tire pressure. Adjust pressure if necessary.

4.10 REMOVING CLOGGED MATERIAL

⚠ DANGER

ROTATING BLADES

NEVER PUT YOUR HANDS INTO THE DISCHARGE CHUTE FOR ANY REASON!

Shut off the engine and remove the key and only then use a stick or similar object to remove material if clogging has occurred.

1. If the discharge chute becomes clogged, shut off the engine and remove the ignition key. Using a stick or similar item, dislodge the clogged material. Then resume normal mowing.

4.11 MOVING MOWER WITH ENGINE STOPPED

To “free-wheel” or move the mower around without the engine running, move the dump valve control lever forward and out towards the drive wheels. See Figure 4-3. Disengage the parking brake and move the mower by hand. When the machine is in the desired position, engage the parking brake. The dump valve levers must be returned to the DRIVE position to drive the mower.

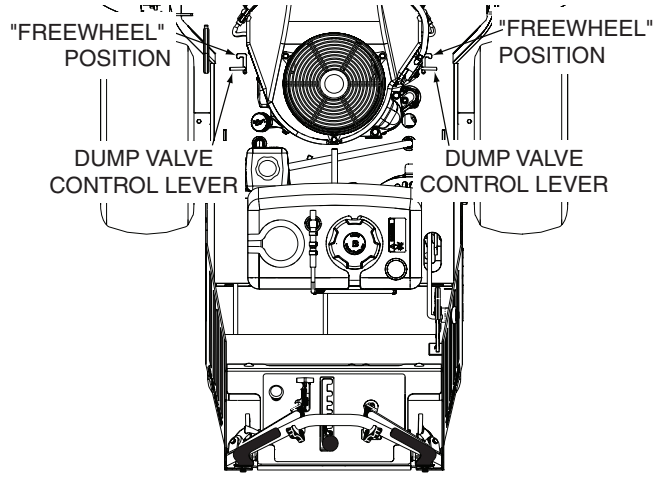


Figure 4-3. Dump Valves

4.12 RECOMMENDATIONS FOR MOWING

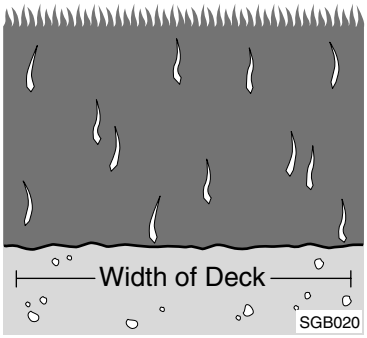
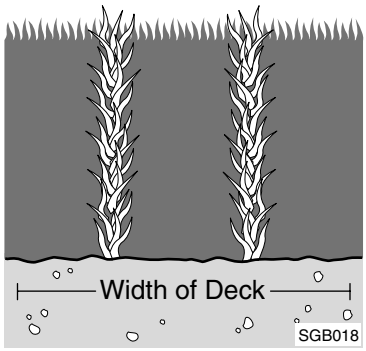
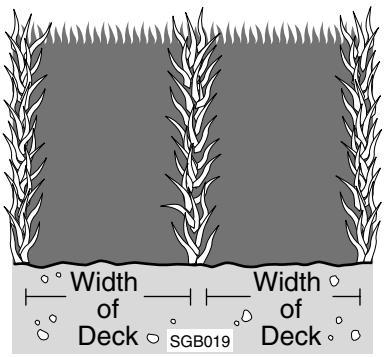
1. Do not mow with dull blades. A dull blade will tear grass, resulting in poor lawn appearance and reduced mowing power.

⚠ WARNING

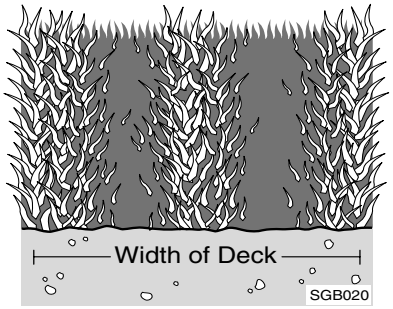
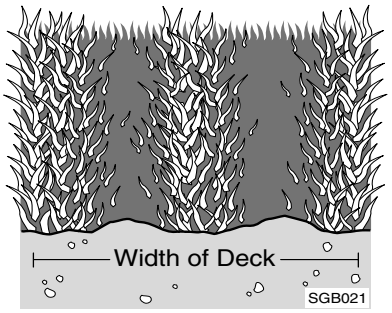
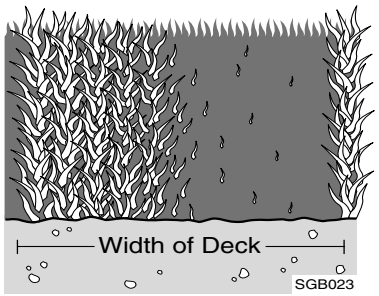
DO NOT operate without Discharge Chute, Mulching Kit, or entire Grass Catcher properly installed.

2. The discharge chute must not be removed and must be kept in the lowest position to deflect grass clippings and thrown objects downward. Direct the side discharge away from sidewalks or streets to minimize cleanup of clippings. When mowing close to obstacles, direct the discharge away from the obstacles to reduce the chance of property damage by thrown objects.
3. Cut grass when it is dry and not too tall. Do not cut grass too short (cut off 1/3 or less of existing grass for best appearance). Mow frequently.
4. Keep mower and discharge chute clean.
5. When mowing wet or tall grass, mow the grass twice. Raise the mower to the highest setting for the first pass and then make a second pass to the desired height.
6. Use a slow travel speed for trimming purposes.
7. Operate the engine at full throttle for best cutting. Mowing with a lower RPM causes the mower to tear the grass. The engine is designed to be operated at full speed.
8. Use the alternate stripe pattern for best lawn appearance. Vary the direction of the stripe each time the grass is mowed to avoid wear patterns in the grass.

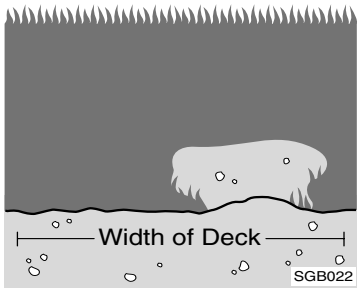
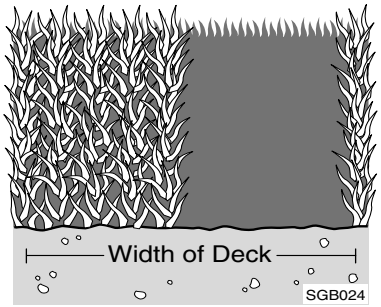
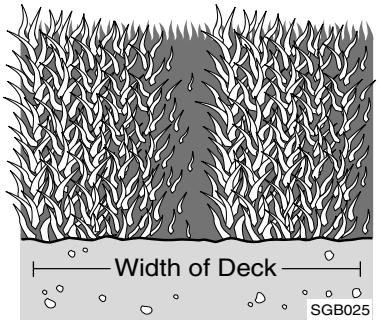
TROUBLESHOOTING CUTTING CONDITIONS

CONDITION	CAUSE	CURE
STRINGERS - OCCASIONAL BLADES OF UNCUT GRASS 	Low engine RPM	Run engine at full RPM
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Dull blades, incorrect sharpening	Sharpen blades
	Deck plugged, grass accumulation	Clean underside of deck
	Belts slipping	Adjust belt tension
STREAKING - STRIPS OF UNCUT GRASS IN CUTTING PATH 	Dull, worn blades	Sharpen blades
	Incorrect blade sharpening	Sharpen blades
	Low engine RPM	Run engine at full RPM
	Belt slipping	Adjust belt tension
	Deck plugged, grass accumulation	Clean underside of deck
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Bent blades	Replace blades
STREAKING - STRIPS OF UNCUT GRASS BETWEEN CUTTING PATHS 	Not enough overlapping between rows	Increase the overlap of each pass

TROUBLESHOOTING CUTTING CONDITIONS (CONT'D)

CONDITION	CAUSE	CURE
UNEVEN CUT ON FLAT GROUND - WAVY HIGH-LOW APPEARANCE, SCALLOPED CUT, OR ROUGH CONTOUR 	Lift worn from blade	Replace blade
	Blade upside down	Mount with cutting edge toward ground
	Deck plugged, grass accumulation	Clean underside of deck
	Too much blade angle (deck pitch)	Adjust pitch and level
	Deck mounted improperly	See your authorized SCAG dealer
	Bent spindle area	See your authorized SCAG dealer
	Dull blade	Sharpen blade
UNEVEN CUT ON UNEVEN GROUND-WAVY APPEARANCE, HIGH-LOW SCALLOPED CUT, OR ROUGH CONTOUR 	Uneven ground	May need to reduce ground speed, raise cutting height, and/or change direction of cut
SLOPING RIDGE ACROSS WIDTH OF CUTTING PATH 	Tire pressures not equal	Check and adjust tire pressure
	Wheels uneven	Check and adjust tire pressure
	Deck mounted incorrectly	See your authorized SCAG dealer
	Deck not level side-to side	Check for level and correct

TROUBLESHOOTING CUTTING CONDITIONS (CONT'D)

CONDITION	CAUSE	CURE
SCALPING - BLADES HITTING DIRT OR CUTTING VERY CLOSE TO THE GROUND 	Low tire pressures	Check and adjust pressures
	Ground speed too fast	Slow speed to adjust for conditions
	Cutting too low	May need to reduce ground speed, raise cutting height, change direction of cut, and/or change pitch and level
	Rough terrain	May need to reduce ground speed, raise cutting height, and/or change direction of cut
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
STEP CUT - RIDGE IN CENTER OF CUTTING PATH 	Blades not mounted evenly	Adjust pitch and level
	Bent blade	Replace blade
	Internal spindle failure	See your authorized SCAG dealer
	Mounting of spindle incorrect	See your authorized SCAG dealer
SLOPE CUT - SLOPING RIDGES ACROSS WIDTH OF CUTTING PATH 	Bent spindle mounting area	See your authorized SCAG dealer
	Internal spindle failure	See your authorized SCAG dealer
	Bent deck housing	See your authorized SCAG dealer

ADJUSTMENTS

6.1 PARKING BRAKE ADJUSTMENT

⚠ WARNING

Do not operate the mower if the parking brake is not operable. Possible severe injury could result.

The parking brake linkage should be adjusted whenever the parking brake lever is placed in the "ENGAGE" position and the parking brake will not prevent the mower from moving. If the following procedures do not allow you to engage the parking brake properly, contact your Scag dealer for further brake adjustments.

1. Park the machine on a flat surface and block the caster wheels to prevent the machine from moving. Remove the ignition key.
2. Disengage the parking brake. See Figure 6-1.
3. Remove the cotter pin securing the pivot to the brake control linkage. See Figure 6-1.
4. Push down on the brake control rod to disengage the parking brake and adjust the pivot until it meets the mounting hole. Insert the pivot into the brake control linkage and secure with the cotter pin.
5. Repeat steps 3 and 4 on the other side of the machine.
6. Test the parking brake.

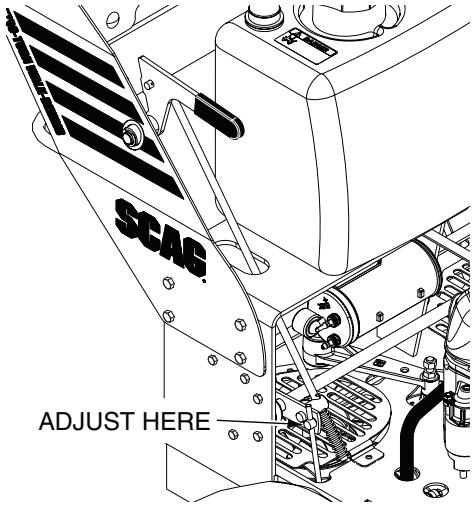


Figure 6-1. Neutral Adjustment

- NOTE -

If this procedure does not achieve proper brake adjustment, please contact your authorized Scag dealer.

6.2 NEUTRAL ADJUSTMENT

-NOTE-

Neutral has been set by your Scag dealer at the time of set up and normally does not need to be adjusted. If, however, you find that the neutral has come out of adjustment, follow the procedure below.

1. Raise the drive wheels off the ground and block the caster wheels to prevent the machine from moving.
2. Make sure the speed control lever is in neutral, the steering control levers are in the neutral latch position, and the parking brake is on. Start the engine.
3. Release the steering controls from the neutral latch, release the parking brake and note if the tires are rotating.
4. Start on the left side of the machine. Using a wrench, rotate the tracking adjustment nut counter clockwise just until the LH wheel starts to creep forward. Make note of the position of the adjustment nut. See Figure 6-2.
5. Turn the adjustment nut clockwise just until the wheel turns rearward. Make note of the position of the adjustment nut. To adjust neutral, split the difference between the two noted positions of the adjustment nut.
6. Repeat steps 4 and 5 on the right side as needed.

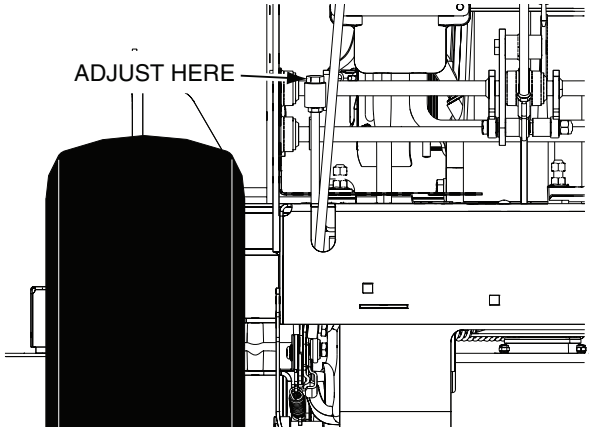


Figure 6-2. Neutral Adjustment

6.3 NEUTRAL LATCH ADJUSTMENT

-NOTE-

This adjustment is made to allow the steering control levers to be moved out of the neutral latch without engaging reverse.

1. Raise the drive wheels off the ground and block the caster wheels to prevent the machine from moving.
2. Make sure the speed control lever is in neutral, the steering control levers are in the neutral latch position, and the parking brake is on.
3. Loosen the control rod jam nuts. See Figure 6-3.

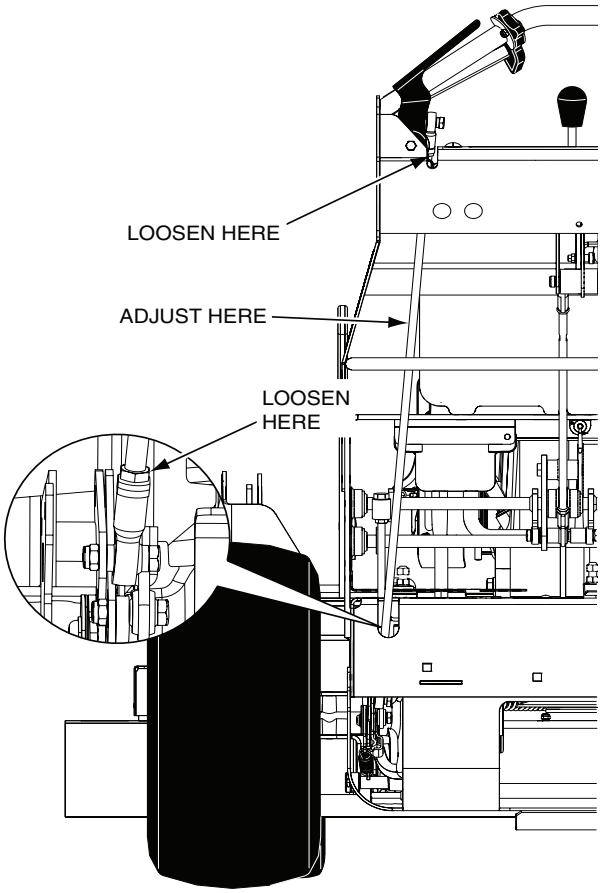


Figure 6-3. Control Rod Adjustment

4. Turn the steering control rod until the steering control lever makes contact with the neutral latch. Hold the steering control rod and tighten the jam nuts. See Figure 6-4.

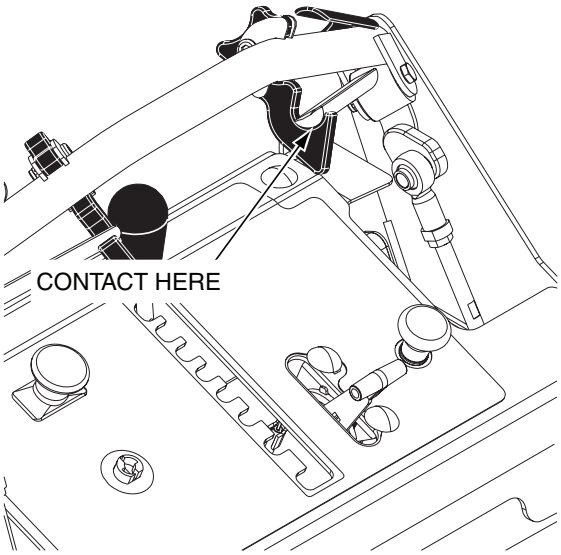


Figure 6-4. Control Rod Adjustment

5. Repeat steps 3 and 4 on the right side as needed.

6.4 TRACKING ADJUSTMENT

-NOTE-

Before proceeding with this adjustment, be sure that the tire pressures are correct and the neutral adjustment and the steering control rod adjustment have been completed.

1. With the machine on a flat level surface, start the engine, release the parking brake and place the speed control lever into the speed that will most often be used.
2. Squeeze the steering control levers and release the neutral latch. Slowly release the steering control levers, allowing the machine to move forward.

⚠ WARNING

Before attempting to make any tracking adjustments, move the speed control lever to the neutral position, place the blade engagement switch in the off position, apply the parking brake, and move the steering control levers into the neutral position.

3. If the machine pulls to one side, stop the mower by placing the steering control levers in the neutral position. Using a wrench, turn the tracking adjustment nut on the slower side counter clockwise until the machine tracks straight.
4. Bring the steering control levers back to the neutral lock position and check to see that the machine does not creep forward on the adjusted wheel.
5. If the machine creeps in neutral, you have moved out of the neutral band and will have to turn the tracking adjustment nut clockwise until the machine does not creep.
6. Repeat steps 1 and 2. If the machine continues to pull to one side, stop the mower by placing the steering control levers in the neutral position. Turn the tracking adjustment nut on the faster side clockwise until the machine tracks straight.
7. If tracking cannot be acheived, contact your Scag servicing dealer.

6.5 THROTTLE CONTROL AND CHOKE ADJUSTMENTS

These adjustments must be performed by your Scag dealer to ensure proper and efficient running of the engine. Should either need adjustment, contact your authorized Scag service center.

6.6 BELT ADJUSTMENT

⚠ WARNING

Before removing any guards, shut the engine off and remove the ignition key.

All drive belts are spring loaded and self-tensioning, however after the first 2, 4, 8 and 10 hours of operation, the belts should be checked for proper alignment and wear. Thereafter, check the belts after every 40 hours of operation or weekly, whichever occurs first.

⚠ WARNING

If the pump drive belt fails, steering control will be lost which could result in serious injury or death. Replace the pump drive belt as needed or every 400 hours / 2 years, whichever occurs first.

6.7 BELT ALIGNMENT

Belt alignment is important for proper performance of your Scag mower. If you experience frequent belt wear or breakage, see your authorized Scag service center for belt adjustment.

6.8 CUTTER DECK ADJUSTMENTS

Cutter deck level, pitch and height are set at the factory. However, if these adjustments should ever need to be made, the following procedures will aid in obtaining the proper cutter deck adjustment.

- NOTE -

Before proceeding with the cutter deck adjustments, be sure that all tires are properly inflated.

CUTTER DECK LEVEL

The cutter deck should be level from side-to-side for proper cutting performance. To check for level, be sure that the mower is on a flat, level surface, the tires are properly inflated and the cutter deck is set at the most common cutting height that you will use. On the RH side of the machine, check the distance from the top of the cutter deck to the floor. Next check the distance from the top of the cutter deck to the floor on the LH side of the machine. Both measurements should be the same. If the two measurements are different, the cutter deck level must be adjusted as follows:

1. If the cutter deck is lower on one side, loosen the elastic stop nuts securing the hanger chains to the cutter deck on the front and rear of the lower side. See Figure 6-5.

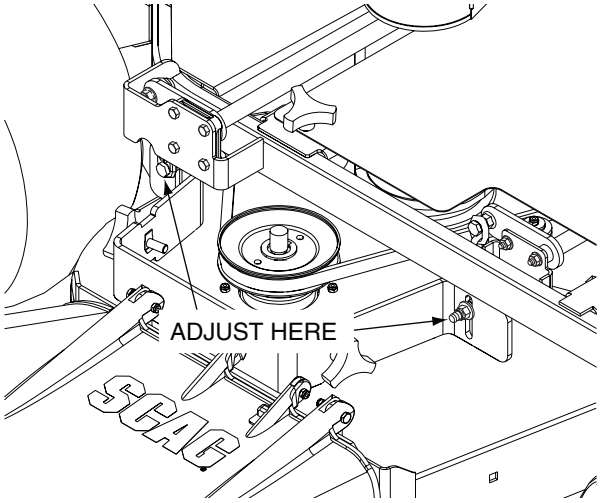


Figure 6-5. Cutter Deck Level Adjustment

2. Move bolts on the front and rear deck hanger chains up or down in the slots until the cutter deck is level between both sides. See Figure 6-5

3. Hold the cutter deck in position and tighten the two (2) elastic stop nuts to secure the cutter deck in the proper position.

CUTTER DECK PITCH

The pitch of the cutter deck should be equal between the front and rear of the cutter deck for proper cutting performance. To check for proper deck pitch, be sure that the mower is on a flat, level surface and the tires are properly inflated.

Check the distance from the top of the cutter deck to the floor at the rear RH side of the cutter deck directly behind the cutter deck hanging chains. Next check the distance from the top of the cutter deck to the floor at the front RH side of the cutter deck directly in front of the cutter deck hanging chains. The measurement at the front of the cutter deck should be the same as the rear of the deck. Make these measurements at the LH side of the cutter deck also. If the measurement at the front of the deck is not the same, the cutter deck pitch must be adjusted as follows:

1. Loosen the elastic stop nuts securing the hanger chains to the front of the cutter deck. See Figure 6-6 and 6-7.

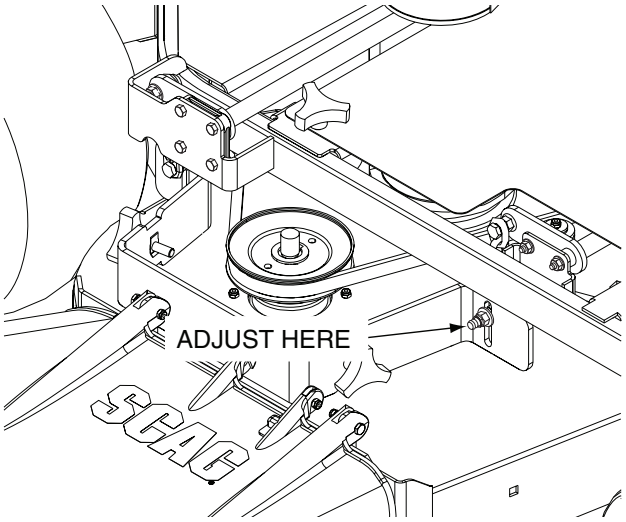


Figure 6-6. Cutter Deck Pitch Adjustment

2. Move bolts on the front hanger chains up or down in the slots until the cutter deck pitch is equal between both sides. Hold the cutter deck in position and tighten the elastic stop nuts.

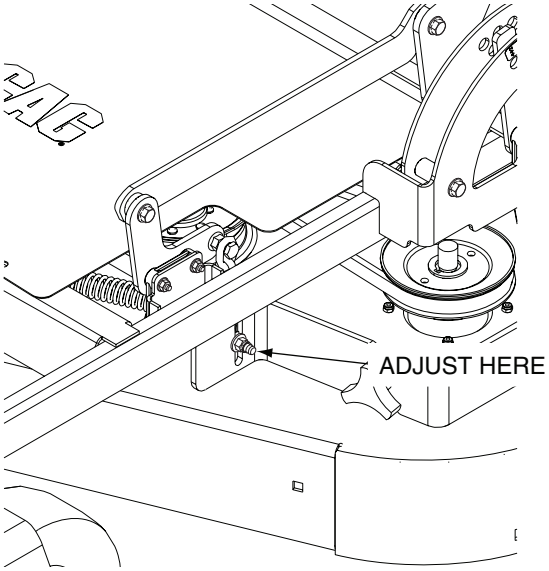


Figure 6-7. Cutter Deck Pitch Adjustment

- NOTE -

To prevent the cutter deck from teetering, all four (4) cutter deck hanging chains must have tension on them. If all four chains do not have tension on them and the deck teeters, you must readjust the cutter deck as outlined in the procedures above. All measurements should be taken from the top edge of the deck as the deck has an uneven bottom edge.

CUTTER DECK HEIGHT

The cutter deck height adjustment is made to ensure that the cutter deck is cutting at the height indicated on the cutting height index gauge. To check for proper deck height, be sure that the mower is on a flat, level surface and the tires are properly inflated.

1. Push the cutter deck lift lever forward, hold and place the cutter deck in the 3" cutting position.
2. Check the measurement from the floor to the cutter blade tip. If the measurement is not 3", an adjustment can be made using the slots in the cutter deck.
3. Loosen the elastic stop nuts securing the hanger chains to the front and rear of the cutter deck on both sides. See Figure 6-8.

- NOTE -

Only the right hand side of the cutter deck is shown below.

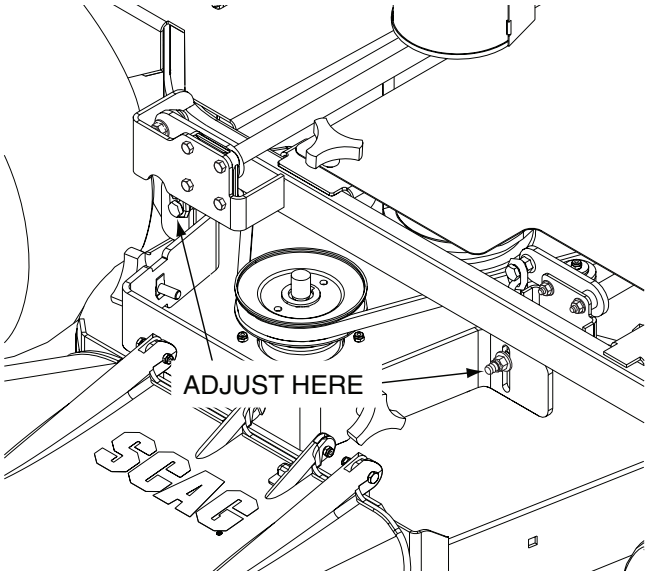


Figure 6-8. Cutter Deck Height Adjustment

4. Move bolts on the front and rear deck hanger chains up or down in the slots until the measurement at the cutter blade is 3" on both sides of the cutter deck.
5. Hold the cutter deck in position and tighten the elastic stop nuts to secure the cutter deck in the proper position

6.9 ELECTRIC CLUTCH ADJUSTMENT

The electric clutch serves two functions in the operation of the mower. In addition to starting and stopping the power flow to the cutter blades, the clutch also acts as a brake to assist in stopping blade rotation when the PTO is switched off or the operator presence circuit is interrupted.

When the clutch is disengaged, the air gap between the armature and rotor must be adjusted to fifteen thousandths of an inch, 0.015, for proper operation. The airgap adjustment is made at three bolts on the clutch. There are three inspection windows, one next to each adjusting bolt. See Figure 6-11.

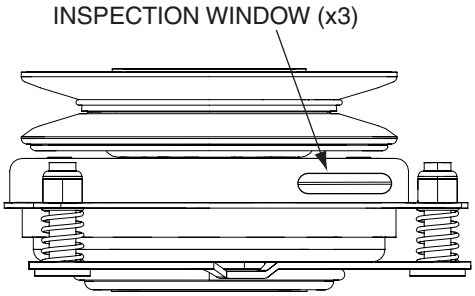


Figure 6-9. Clutch Air Gap Adjustment

1. Locate the inspection windows on the clutch.
2. Place a 0.015 feeler gauge in the slot between the rotor and the armature. See Figure 6-10.

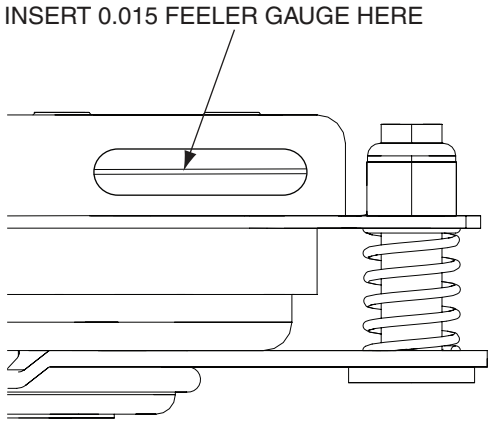


Figure 6-10. Clutch Air Gap Adjustment

3. Tighten or loosen the adjusting bolt as needed to acheive the 0.015 inch airgap. See Figure 6-11. Perform this operation at all three inspection windows.

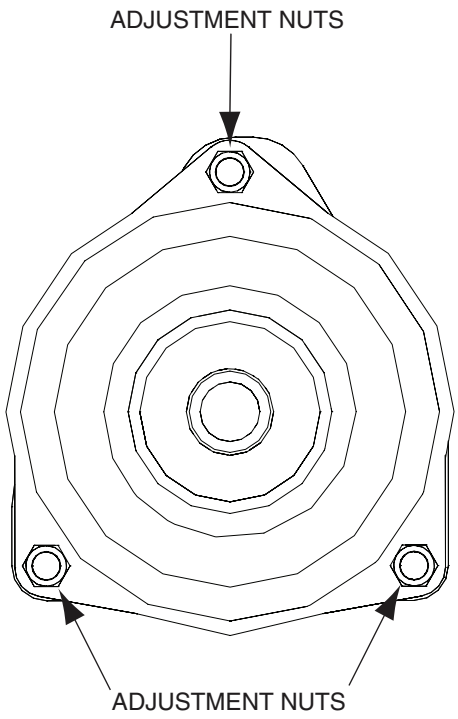


Figure 6-11. Clutch Air Gap Adjustment

This adjustment should be done every 500 hours of operation or annually, whichever comes first. In cases where the machine is heavily used, airgap settings should be checked more often.

If the air gap is too narrow, the clutch armature may drag when disengaged, resulting in premature failure.

If the air gap is too wide, the clutch may be slow to engage as the magnet must pull the armature in from a greater distance.

MAINTENANCE

7.1 MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS

HOURS							PROCEDURE	COMMENTS
BREAK-IN (FIRST 10)	8	20	40	100	200	400		
X							Check all hardware for tightness	
X							Check all belts for proper alignment	See paragraph 7.6
	X						Check all hydraulic fittings and hoses for leaks	See paragraph 2.5
	X						Check engine oil level	See paragraph 7.3
	X						*Clean mower	
	X						Check tire pressure	See paragraph 7.8
	X						*Clean air filter element	See paragraph 7.5
	X						Check condition of blades	See paragraph 7.7
	X						Sharpen cutter blades	See paragraph 7.7
	X						Check tire pressure	See paragraph 7.10
	X						Check the operator interlock system	See paragraph 4.2
		X					Change engine oil and filter	See paragraph 7.3
			X				Check belts for proper alignment	See paragraph 7.6
				X			Check condition of fuel lines	
				X			Check all belts for proper alignment	
				X			*Replace engine air filter	See engine operator's manual
				X			Grease caster wheel bearings	See paragraph 7.2
				X			Drain hydraulic system, replace hydraulic oil and filters	Use SAE 20W50 Motor Oil. See paragraph 7.2
				X			Check all hardware for tightness	
				X			Change engine oil	See paragraph 7.4
				X			*Clean air cleaner element	See paragraph 7.5

MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS (CONT'D)

HOURS						PROCEDURE	COMMENTS
BREAK-IN (FIRST 10)	8	40	100	200	400		
				X		Check hardware for tightness	
				X		Change engine oil filter	See paragraph 7.4
					X	Replace engine fuel filter	See paragraph 7.5
					X	Grease caster wheel pivot shafts	See paragraph 7.2
					X	Drain hydraulic system, replace hydraulic oil and filters	Use SAE 20W50 Motor Oil. See paragraph 7.2
					X	Adjust electric PTO clutch	See paragraph 6.6

* Perform these maintenance procedures more frequently under extreme dusty or dirty conditions

7.2 LUBRICATION

GREASE FITTING LUBRICATION CHART

LOCATION	LUBRICATION INTERVAL	LUBRICANT	NO. OF PLACES
1 - Caster Wheel Pivot	100 Hours / Bi-Weekly	Chassis Grease	2
2 - Caster Wheel Bearings	100 Hours / Monthly	Chassis Grease	2

7.3 HYDRAULIC SYSTEM

A. CHECKING HYDRAULIC OIL LEVEL

The hydraulic oil level should be checked after the first 10 hours of operation. Thereafter, check the oil after every 200 hours of machine operation or monthly, whichever occurs first.

- IMPORTANT -

If the oil level is consistently low, check for leaks and correct immediately.

1. Wipe dirt and contaminants from around the reservoir cap. Remove the cap from the hydraulic oil expansion reservoir.
2. When the machine is "cold" (before operation), visually check the level of the hydraulic system oil. Hydraulic system oil level should be up to the FULL / COLD indicator line on the hydraulic expansion reservoir. See Figure 7-1. DO NOT overfill; (overfilling the oil reservoir may cause oil seepage).
3. Clean the fill cap and install it onto the expansion reservoir.

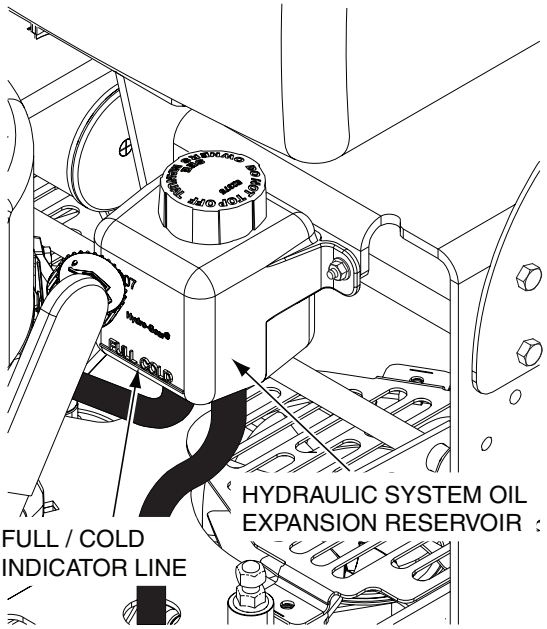


Figure 7-1. Hydraulic System Oil Level

B. CHANGING HYDRAULIC OIL

The hydraulic system oil should be changed after the first 120 hours of machine operation and every 400 hours or annually thereafter, whichever occurs first. The oil should also be changed if the color of the fluid has become black or milky. A black color and/or a rancid odor usually indicates possible overheating of the oil, and a milky color usually indicates water in the hydraulic oil.

- IMPORTANT -

The hydraulic system oil should be changed if you notice the presence of water or a rancid odor to the hydraulic oil.

1. Park the mower on a level surface and stop the engine.
2. Remove the three 1/4" filter guard screws and filter guard from both axles. See Figure 7-2. Clean any loose debris around the perimeter of the filter.

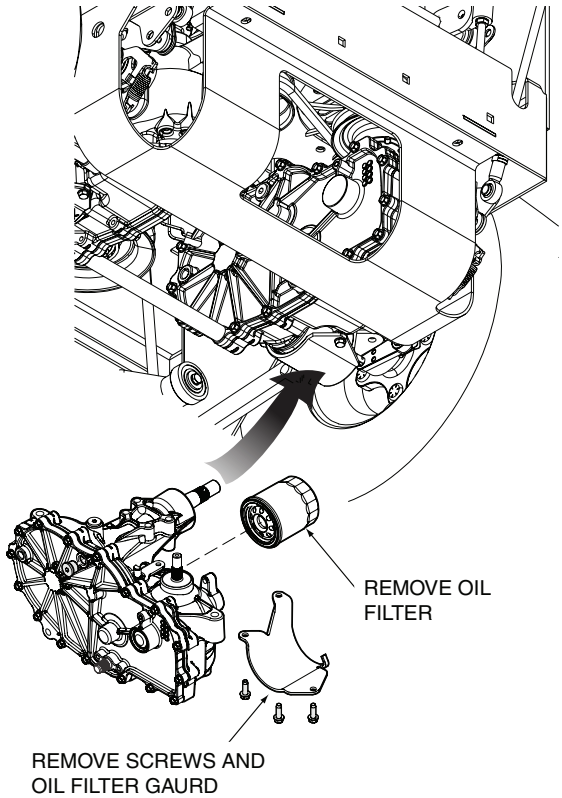


Figure 7-2. Hydraulic Oil Filter and Drain Plug

3. Place a suitable container under the hydraulic oil filters. Remove the fill cap from the expansion reservoir.

4. Remove the hydraulic filters from both axles and allow the fluid to drain into the container. Properly discard the oil when the system has drained completely. See Figure 7-2.
5. Once the hydraulic system has drained, install new hydraulic oil filters to both axles by hand, turn 3/4 to one complete turn after filter gasket contacts the filter base.
6. Reinstall the filter guards and torque the screws to 65 in/lbs.
7. Remove the top port plug from both axles before filling with oil. See Figure 7-3.

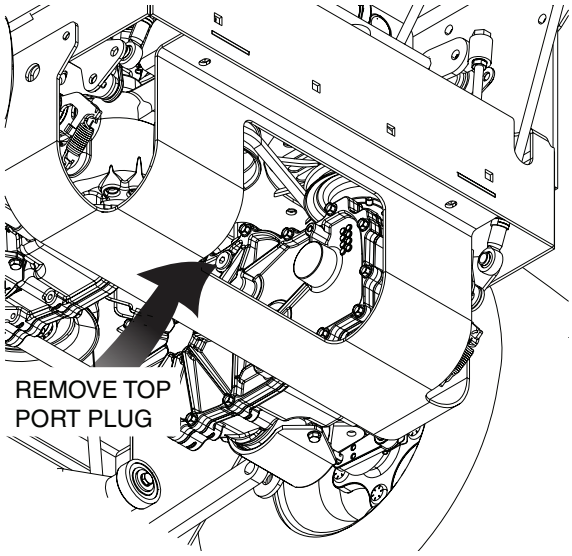


Figure 7-3. Top Port Plug Location

8. Fill the hydraulic expansion reservoir with 20w50 motor oil until the oil just appears at the bottom of each axle top port. Approximately 5 quart capacity. Reinstall the top port plugs and torque to 180 in/lbs.

-NOTE-

The left side axle will fill with oil first using approximately 4 quarts of oil. Reinstall the top port plug in the left axle and continue to fill the hydraulic system through the expansion reservoir. The right side axle should fill up to the bottom on the top port plug after adding an additional one quart of oil. Reinstall the top port plug on the right axle and fill the hydraulic expansion reservoir to the proper level as explained in Section 7.2.

9. Reinstall the hydraulic expansion reservoir cap.
10. The hydraulic system will need to be purged of all air. Raise the rear of the machine so the drive wheels are off the ground. Use jackstands and block the front caster wheels to prevent the machine from moving.
11. Move the dump valve control levers to the "freewheel" position. See Figure 7-4.

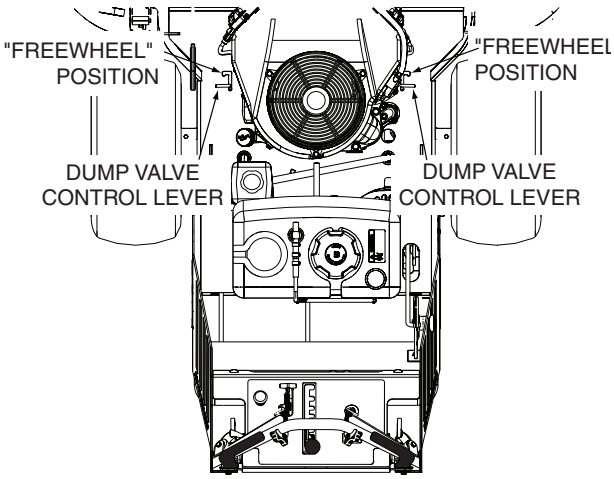


Figure 7-4. Dump Valve Control Lever

12. While in the operator's position, start the engine, disengage the parking brake, select the desired speed using the speed control lever, release the neutral latch for both sides and slowly release both the left and right steering control levers.
13. Run the engine at 1/2 throttle and move the steering control levers to full forward and reverse 5 to 6 times.
14. Move the speed control lever to the neutral position, engage the neutral latch for both sides and engage the parking brake. Move the dump valve comtrol levers to the "drive" position. See Figure 7-4.
15. While in the operator's position, start the engine, disengage the parking brake, select the desired speed using the speed control lever, release the neutral latch for both sides and slowly release both the left and right steering control levers. It may be necessary to repeat steps 11 to 15 until the air is completely purged from the system.
16. Check the hydraulic system oil level as explained in Section 7.2.

7.4 ENGINE OIL

A. CHECKING ENGINE CRANKCASE OIL LEVEL

The engine oil level should be checked after every 8 hours of operation or daily as instructed in the Engine Operator's Manual furnished with this mower.

B. CHANGING ENGINE CRANKCASE OIL

After the first 20 hours of operation, change the engine crankcase oil and replace the oil filter. Thereafter, change the engine crankcase oil after every 100 hours of operation or bi-weekly, whichever occurs first. Refer to the Engine Operator's Manual furnished with this mower for instructions.

C. CHANGING ENGINE OIL FILTER

After the first 20 hours of operation, replace the engine oil filter. Thereafter, replace the oil filter after every 200 hours of operation or every month, whichever occurs first. Refer to Engine Operator's Manual for instructions.

7.5 ENGINE FUEL SYSTEM

⚠ DANGER

To avoid injury from burns, allow the mower to cool before removing the fuel tank cap and refueling.

A. FILLING THE FUEL TANK

Fill to the bottom of the filler neck insert (approximately 5-1/2 gallons indicating Full (F) on the fuel gauge) at the beginning of each operating day. See Figure 7-5. Do not overfill. Use clean, fresh unleaded gasoline with a minimum octane rating of 87 and a maximum of 10% Ethanol.

DO NOT use E85 Fuel. Using E85 Fuel will cause severe damage to the engine.

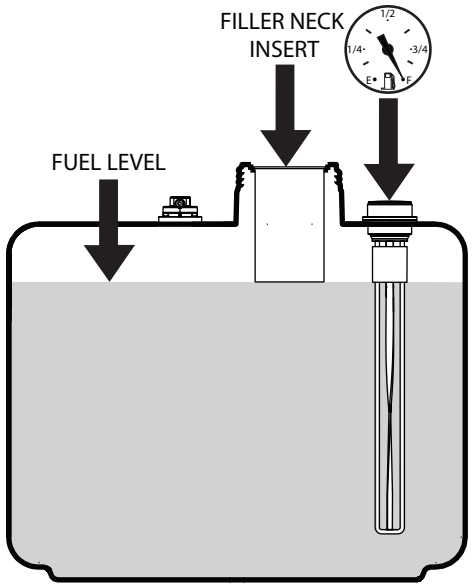


Figure 7-5. C.A.R.B. / EPA Phase 3 Fuel Level

To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.

1. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
2. Use only an approved gasoline container.
3. Never remove the gas cap or add fuel with the engine running. Allow the engine to completely cool before fueling.
4. Never fuel the machine indoors or in an enclosed trailer.
5. Never store the machine or fuel container where there is an open flame, spark or pilot light such as on a water heater or other appliances.
6. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
7. Remove the machine from the truck or trailer and fuel on level ground. If this is not possible, then refuel the machine with a portable container, rather than from a gasoline dispenser nozzle.
8. Keep the nozzle in contact with the rim of fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
9. If fuel is spilled on clothing, change clothing immediately and wash affected skin.

10. Replace gas cap and tighten the fuel cap until it ratchets.

B. REPLACING IN-LINE FUEL FILTER ELEMENTS

The engine fuel filter should be replaced after every 500 hours of operation or annually, whichever occurs first.

1. Close the shut-off valve.
2. Remove and replace the engine fuel filter. Open the fuel shut-off valve.

7.6 ENGINE AIR CLEANER

A. CLEANING AND/OR REPLACING AIR CLEANER ELEMENT

For any air cleaner, the operating environment dictates the air cleaner service periods. Inspect and clean the air cleaner element after every 100 hours of operation or bi-weekly, whichever occurs first and replace the element if required.

- NOTE -

In extremely dusty conditions it may be necessary to check the element once or twice daily to prevent engine damage.

1. Remove the air cleaner cover. Set aside.
2. Remove the air cleaner and inspect.
3. Clean or replace the air cleaner and foam pre-cleaner as recommended by the engine manufacturer.
4. Replace the air cleaner cover and secure.

7.7 CUTTER BLADES

A. BLADE INSPECTION

1. Remove the ignition key before servicing the blades.

⚠ WARNING

Always wear proper hand and eye protection when working with cutter blades.

2. Check the cutter blades for straightness. If the cutter blades appear bent, they will need to be replaced.
3. Check the cutter blades for wear. If any part of the cutter blade is worn to 1/2 its original thickness, replace the cutter blade.

⚠ WARNING

Do not attempt to straighten a bent blade, and never weld a broken or cracked blade. Always replace it with a new blade to assure safety.

4. Check the cutter blades for gouges. If there are gouges on the top or bottom surfaces of the cutter blade, replace the cutter blade.
5. If a blade cutting edge is dull or nicked, it should be sharpened. Remove the blades for sharpening. See "Blade Replacement."

- NOTE -

Keep the blades sharp. Cutting with dull blades not only yields a poor mowing job, but slows the cutting speed of the mower and causes extra wear on the engine and the blade drive by pulling hard.

B. BLADE SHARPENING

- NOTE -

If possible, use a file to sharpen the blade. Using a wheel grinder may burn the blade.

- NOTE -

DO NOT sharpen the blades beyond 1/3 of the width of the blade. See Figure 7-6.

1. Sharpen the cutting edge at the same bevel as the original. See Figure 7-6. Sharpen only the top of the cutting edge to maintain sharpness.

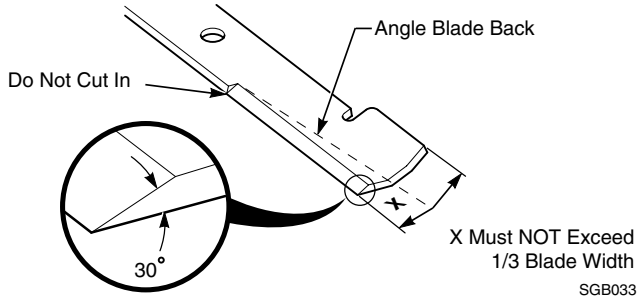


Figure 7-6. Blade Sharpening

2. Check the balance of the blade. If the blades are out of balance, vibration and premature wear can occur. The cutter blades should be balanced to 1-1/2 oz-in. See your authorized Scag dealer for blade balancing or special tools, if you choose to balance your own blades.

C. BLADE REPLACEMENT

⚠ WARNING

Always wear proper hand and eye protection when working with cutter blades.

1. Remove the ignition key before replacing the blades.
2. Raise the mower deck to the highest position. Place the lanyard pin in the highest cutting height position to prevent the cutter deck from falling.
3. Secure the cutter blades to prevent them from rotating, (use the optional Blade Buddy tool P/N 9212, to assist in securing the cutter blades), remove the blade attaching bolt. Remove the cutter blade, bolt, lockwasher and flatwasher from the spindle shaft. See Figure 7-7.

⚠ CAUTION

Inspect the cutter blade spacer(s) and washer for wear and/or cupping. Replace the worn parts. Worn spacer(s) and/or washer will not allow proper tightening of the cutter blade and can lead to cutter blade failure, personal injury or property damage.

4. To install the new cutter blade, put the lockwasher and flatwasher onto the blade bolt and slide the bolt into the hole in the cutter blade.

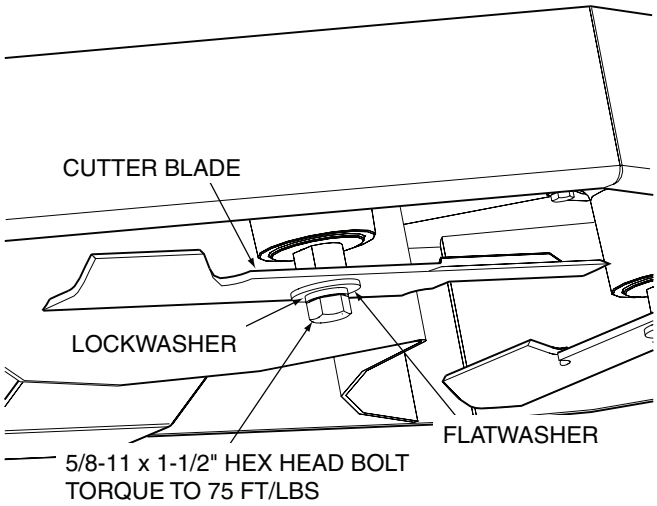


Figure 7-7. Blade Replacement

- NOTE -

Be sure that the blade is installed with the lift wing toward the top.

5. Install the cutter blade onto the cutter spindle shaft. Secure the blades from rotating and torque to 75 ft/lbs. See Figure 7-7.

7.8 TIRES

Check the tire pressures after every 8 hours of operation or daily.

Caster Wheels	Flat Free
Drive Wheels	12 PSI

ILLUSTRATED PARTS LIST

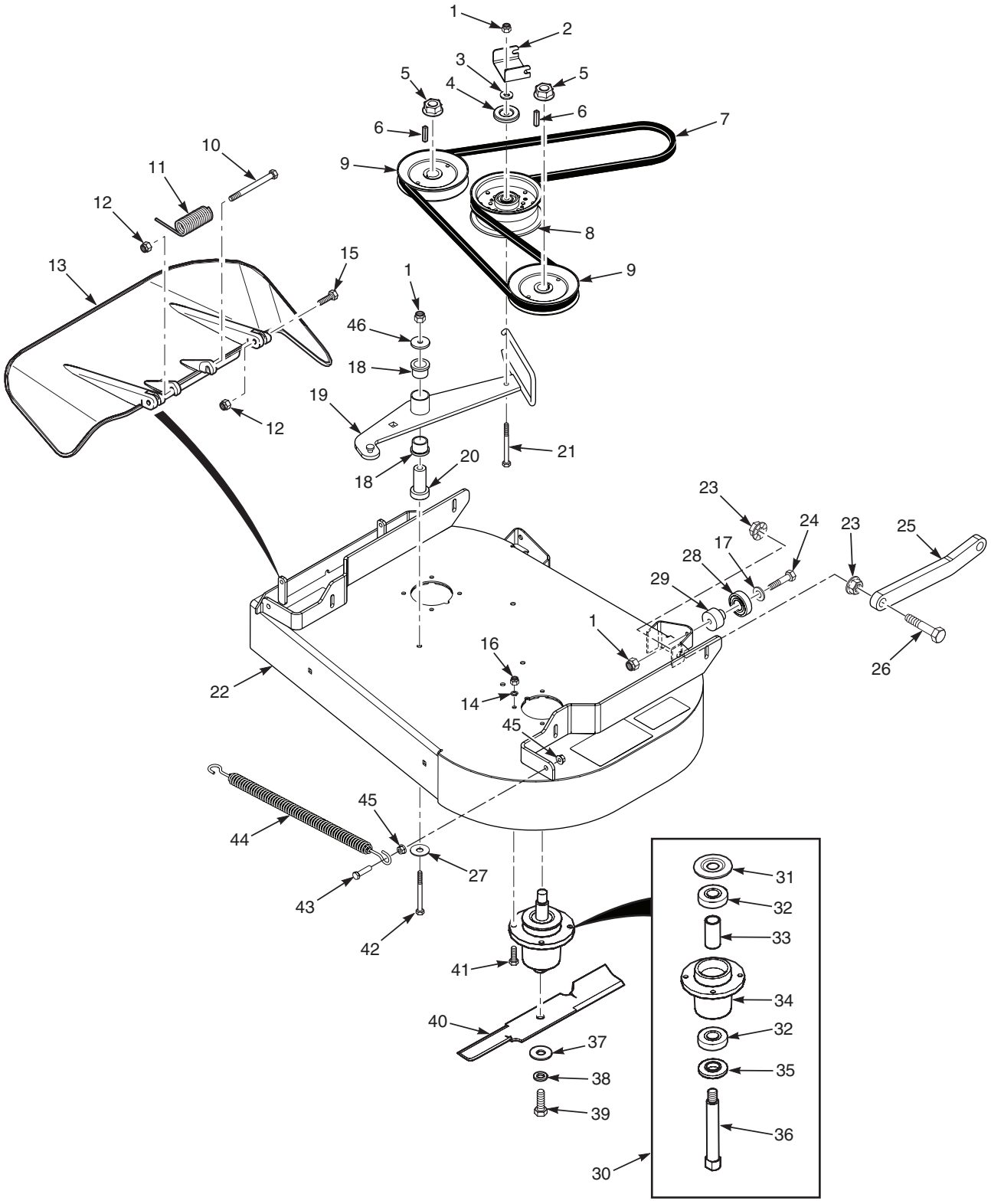
8.1 SCAG APPROVED ATTACHMENTS AND ACCESSORIES.

Attachments and accessories manufactured by companies other than Scag Power Equipment are not approved for use on this machine.

Scag approved attachments and accessories:

- Mulch Plate (p/n 920G, 9298)
- Hurricane Mulch (p/n 920D, 9293)
- GC-F4 (p/n 9075)
- Blade Buddy (p/n 9212)
- Hour Meter (p/n 484565)

36" CUTTER DECK



2014 SWZT 36CD

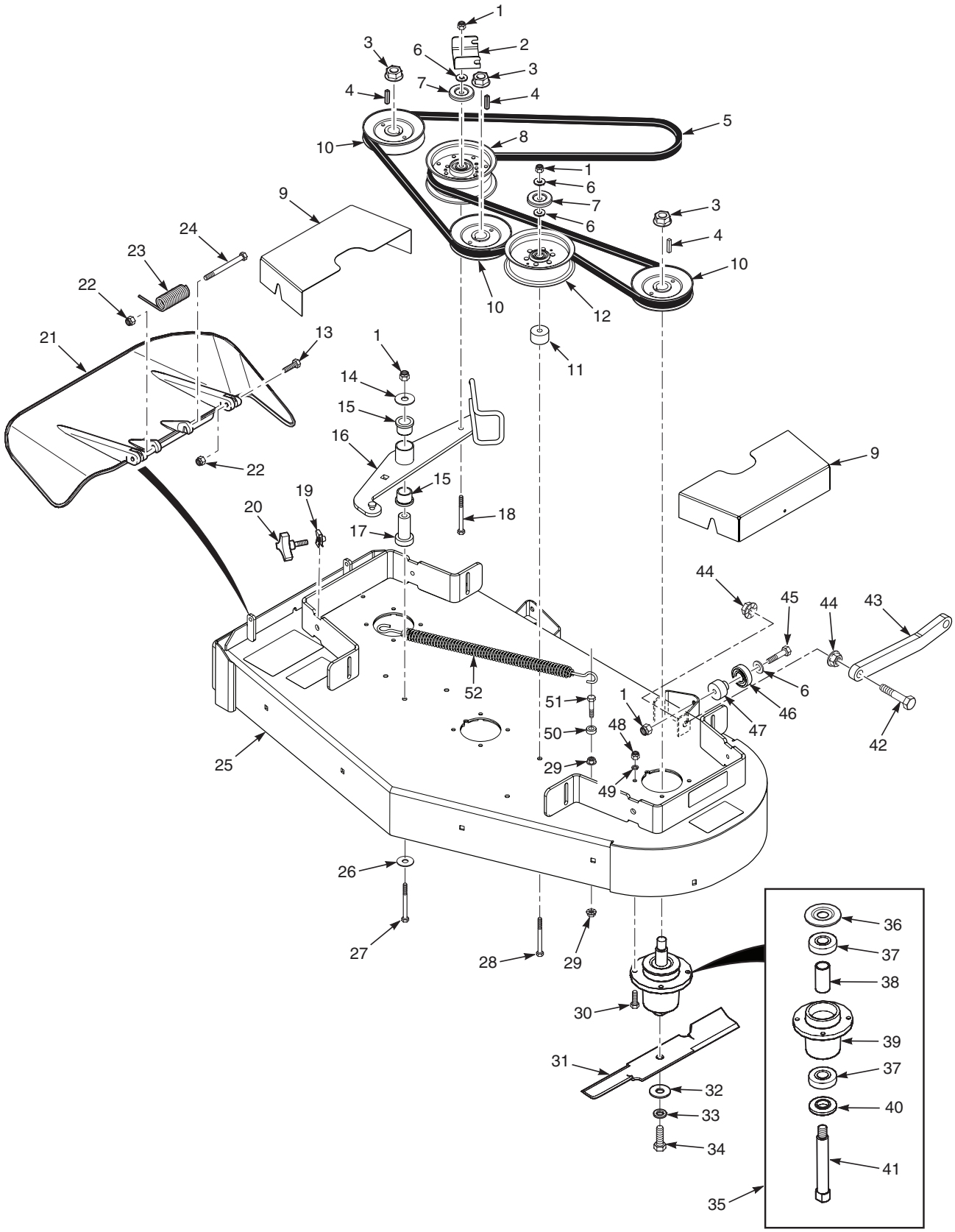
36" CUTTER DECK

Ref. No.	Part No.	Description
1	04021-09	Nut, Elastic Stop 3/8-16
2	424615	Bracket, Belt Guide
3	04043-04	Flatwasher, 3/8-.391 x .938 x .105
4	424367	Dust Shield
5	04112-06	Nut, 3/4-16 Spiral Lock
6	04063-01	Key, 1/4 x 1/4 x 1-1/4"
7	484619	Belt, Cutter Deck
8	483851	Pulley, 5" Idler
9	483324	Pulley, 5.73" OD - 25mm Bore
10	04001-154	Bolt, Hex Head 5/16-18 x 4-3/4"
11	482245	Spring, Discharge Chute
12	04021-10	Nut, Elastic Stop 5/16-18
13	462031	Discharge Chute Assembly
*	462355	CA Discharge Chute
*	425872	Turbo Baffle
14	04030-03	Lockwasher, 5/16 Spring
15	04001-12	Bolt, Hex Head 5/16-18 x 1-3/4"
16	04021-22	Nut, Elastic Stop 5/16-18
17	04043-04	Flatwasher, 3/8-.391 x .938 x .105 Hardened
18	483453-03	Bearing, Plastic
19	462190	Idler Arm (incl. item #18)
20	43708	Pivot, Idler
21	04001-62	Bolt, Hex Head 3/8-16 x 3-1/4"
22	462571	Cutter Deck w/Decals, SMWZT-36

Ref. No.	Part No.	Description
23	04019-06	Nut, Serrated Flange 1/2-13
24	04001-46	Bolt, Hex Head 3/8-16 x 2-1/4"
25	425959	Pusharm
26	04001-72	Bolt, Hex Head 1/2-13 x 2"
27	04041-38	Flatwasher, 3/8-.406 x 2.25" x .188
28	483379	Bearing
29	43703	Spacer, Bearing
30	461950	Spindle Assembly
31	483304	Debris Shield
32	483303	Bearing
33	43693	Spacer, Bearing
34	462014	Spindle Housing Assembly (incl. item #32, 33)
35	43694	Protector, Bearing
36	43695	Shaft, Spindle
37	04043-06	Flatwasher, 5/8-11 x 1-1/2"
38	04030-07	Lockwasher, 1/2 Spring
39	04001-121	Bolt, Hex Head 5/8-11 x 1-1/2"
40	482878	Cutter Blade, 18"
41	04001-175	Bolt, Hex Head 5/16-18 x 1-1/2" Gr.8
42	04001-51	Bolt, Hex Head 3/8-16 x 3-3/4"
43	04001-136	Bolt, Hex Head 3/8-16 x 1-1/2" Gr.8
44	483375	Spring, Idler
45	04019-04	Nut, Serrated Flange 3/8-16
46	04041-11	Flatwasher, 3/8-.406 x 1-1/2"

* = California Models Only (not shown)

48" CUTTER DECK



2014 SWZT CD

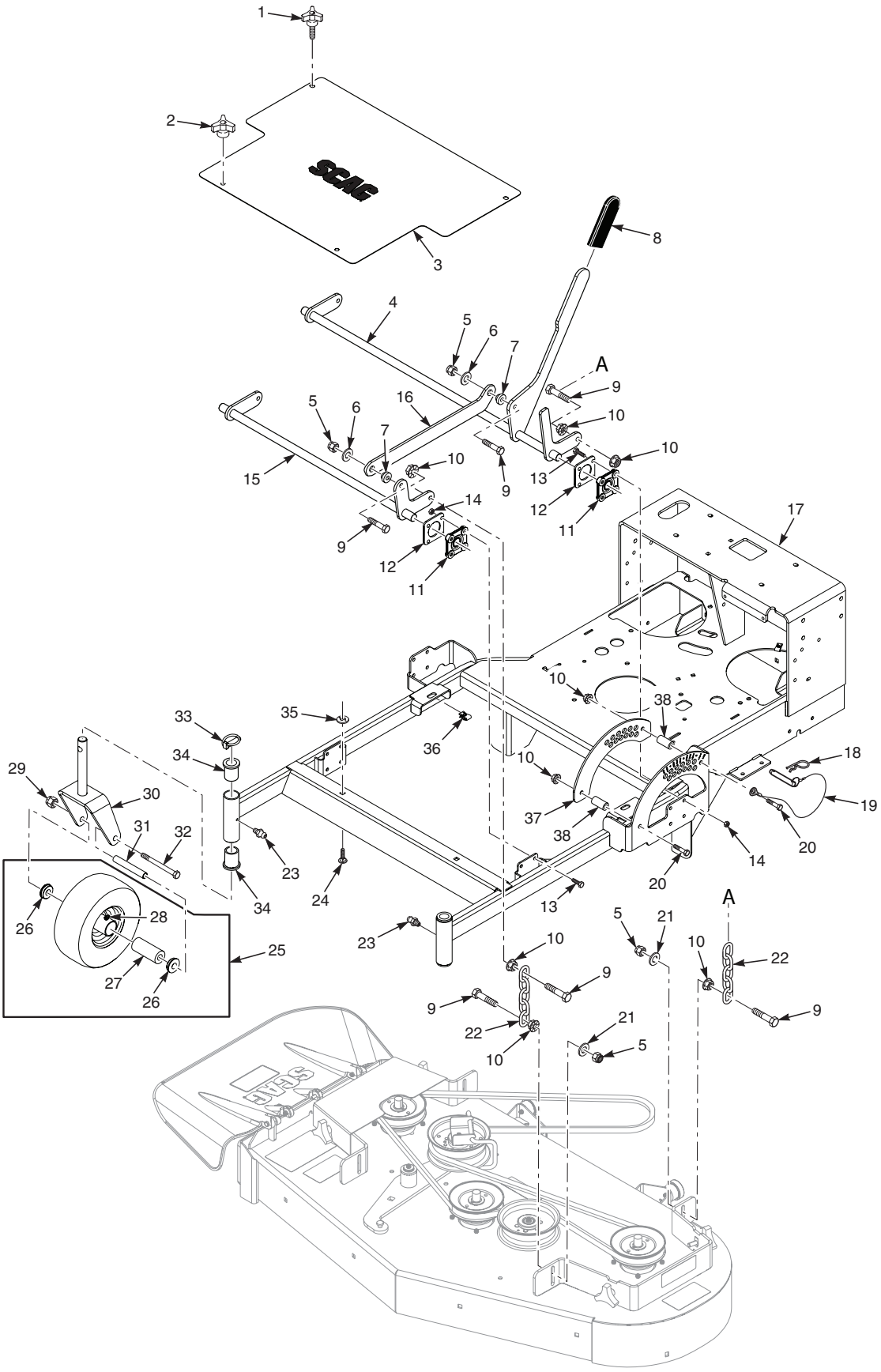
48" CUTTER DECK

Ref. No.	Part No.	Description
1	04021-09	Nut, Elastic Stop 3/8-16
2	424615	Bracket, Belt Guide
3	04112-06	Nut, 3/4-16 Spiral Lock
4	04063-01	Key, 1/4 x 1/4 x 1-1/4"
5	484618	Belt, Cutter Deck
6	04043-04	Flatwasher, 3/8-.391 x .938 x .105
7	424367	Dust Shield
8	483851	Pulley, 5" Idler
9	425978	Belt Cover
10	483323	Pulley, 5.13" OD - 25mm Bore
11	43711	Spacer
12	483422	Pulley, 5" Idler
13	04001-12	Bolt, Hex Head 5/16-18 x 1-3/4"
14	04041-11	Flatwasher, 3/8-.406 x 1-1/2"
15	483453-03	Bearing
16	462191	Idler Arm (incl. item #15)
17	43708	Pivot, Idler
18	04001-62	Bolt, Hex Head 3/8-16 x 3-1/4"
19	04110-04	U-Nut, 3/8-16
20	481625-01	Knob w/Stud
21	462031	Discharge Chute Assembly
*	462472	CA Discharge Chute
*	425619	Turbo Baffle
22	04021-10	Nut, Elastic Stop 5/16-18
23	482245	Spring, Discharge Chute
24	04001-154	Bolt, Hex Head 5/16-18 x 4-3/4"
25	462572	Cutter Deck w/Decals, SMWZT-48

Ref. No.	Part No.	Description
26	04041-38	Flatwasher, 3/8-.406 x 2.25" x .188
27	04001-51	Bolt, Hex Head 3/8-16 x 3-3/4"
28	04001-77	Bolt, Hex Head 3/8-16 x 3-1/2"
29	04019-04	Nut, Serrated Flange 3/8-16
30	04001-175	Bolt, Hex Head 5/16-18 x 1-1/2" Gr.8
31	482877	Cutter Blade, 16-1/2"
32	04043-06	Flatwasher, 5/8-.688 x 1.75 x .134 HD
33	04030-07	Lockwasher, 1/2 Spring
34	04001-121	Bolt, Hex Head 5/8-11 x 1-1/2"
35	461950	Spindle Assembly
36	483304	Debris Shield
37	483303	Bearing
38	43693	Spacer
39	462014	Spindle Housing Assembly (Incl. item #37, 38)
40	43694	Protector, Bearing
41	43695	Shaft, Spindle
42	04001-72	Bolt, Hex Head 1/2-13 x 2"
43	425959	Pusharm
44	04019-06	Nut, Serrated Flange 1/2-13
45	04001-46	Bolt, Hex Head 3/8-16 x 2-1/4"
46	483379	Bearing
47	43703	Spacer, Bearing
48	04021-22	Nut, Elastic Stop 5/16-18
49	04030-03	Lockwasher, 5/16 Spring
50	43063	Spacer
51	04001-136	Bolt, Hex Head 3/8-16 x 1-1/2 Gr.8
52	483375	Spring, Idler

* = California Models Only (not shown)

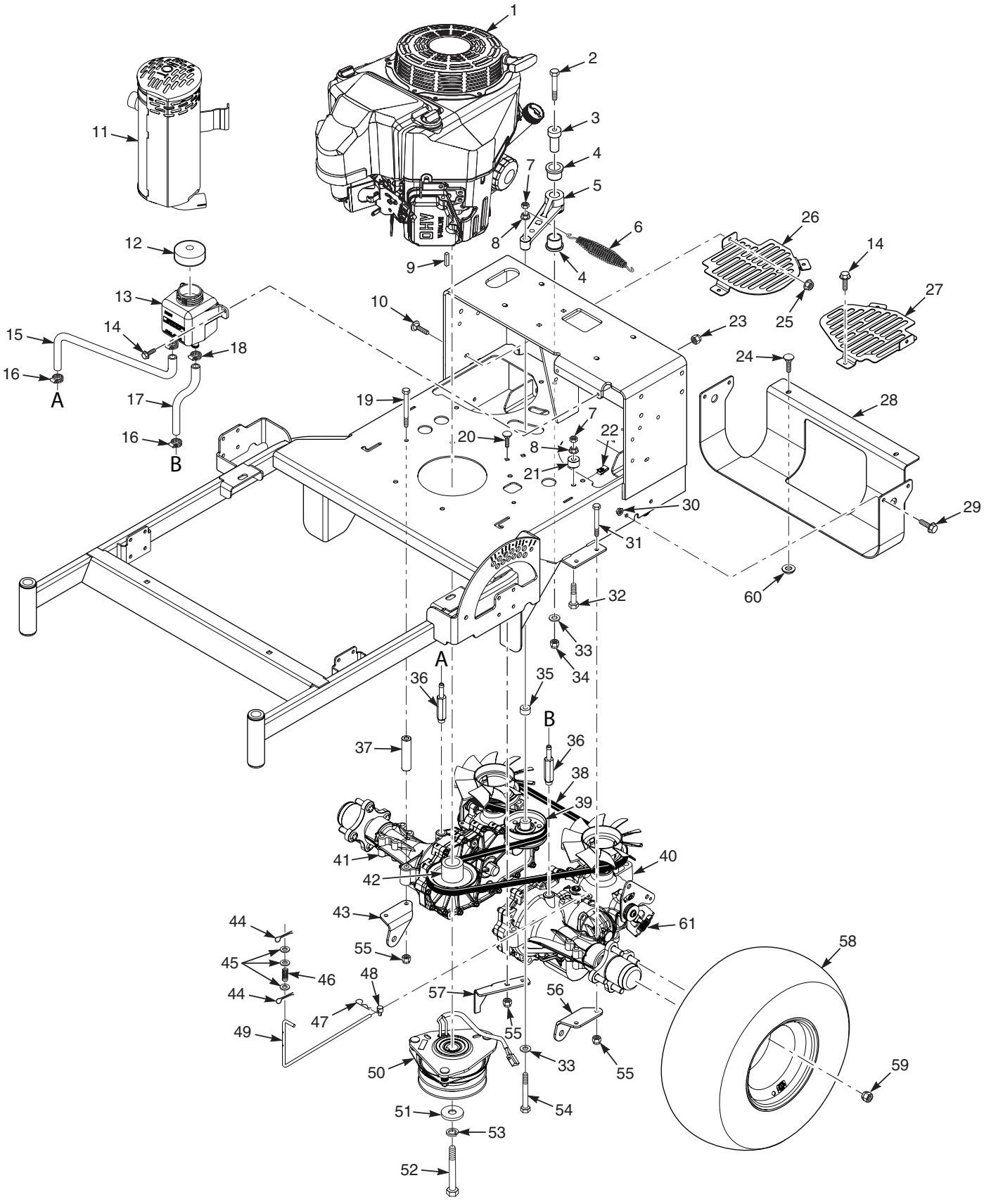
CUTTER DECK CONTROLS



CUTTER DECK CONTROLS

Ref. No.	Part No.	Description
1	481625-01	Knob W/Stud, 3/8-16 x 1-1/4"
2	04029-04	Wing Nut, 3/8" Plastic Small
3	462565	Belt Cover w/Decals
4	462522	Deck Bellcrank Assy. (Incl. item #8)
5	04021-09	Nut, Elastic Stop 3/8-16
6	04041-07	Flatwasher, 3/8-.391 x .938 x .105
7	43086	Bushing
8	484669	Grip, Deck Lift
9	04001-20	Bolt, Hex Head 3/8-16 x 1-1/2"
10	04019-04	Nut, Serrated Flange 3/8-16
11	483334	Bearing, Deck Lift
12	425209	Reinforcement, Bearing
13	04017-17	Cpscrw, 5/16-18 x 1"Serrated Flange Hex Head
14	04021-04	Nut, Center Lock 5/16-18
15	452018	Deck Lift Weldment, Front
16	425968	Link, Decklift
17	462570	Frame w/Decals
18	04062-04	Hair Pin Cotter
19	483345	Pin Assembly w/Lanyard
20	04001-31	Bolt, Hex Head 3/8-16 x 2-1/2"
21	04041-07	Flatwasher, 3/8-.391 x .938 x .105
22	48540	Chain
23	48114-04	Grease Fitting
24	04003-23	Bolt, Carriage 3/8-16 x 1"
25	9275	Flat-Free Tire Assy. (Incl. #26, #27, #28)
26	481770	Retainer, Caster Wheel Bearing
27	481769	Roller Bearing, Caster Wheel
28	48114-03	Grease Fitting, 45 Degree 1/4-28
29	04021-07	Nut, Elastic Stop 1/2-13
30	45006	Caster Yoke
31	43022	Sleeve, Caster Wheel Bearing
32	04001-37	Bolt, Hex Head 1/2-13 x 5-1/2"
33	04066-01	Quick Pin
34	48100-01	Bronze Bearing
35	04024-02	Nut, Push-On 3/8"
36	04110-03	U-Nut 3/8-16
37	425970	Bracket, Deck Height
38	43805	Spacer

ENGINE DECK & HYDRAULIC SYSTEM



ENGINE DECK & HYDRAULIC SYSTEM

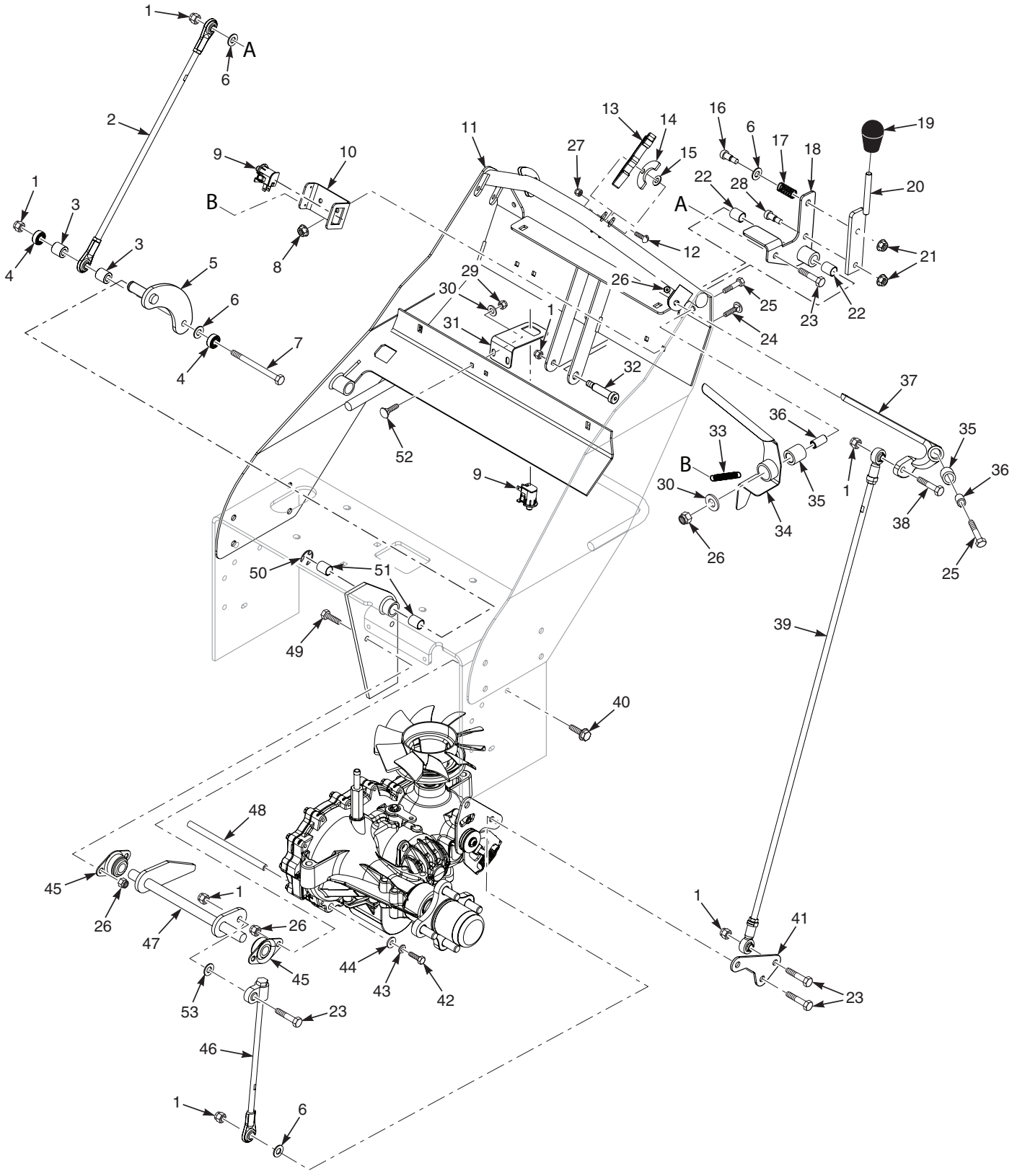
Ref. No.	Part No.	Description
1	*484636	Engine, Kawasaki FS481V
	*484637	Engine, Kawasaki FS541V
2	04001-54	Bolt, Hex Head 3/8-16 x 3"
3	43715	Pivot, Idler
4	483453-04	Bearing
5	462122	Idler Arm (incl. item #4)
6	483087	Spring, Transmission Idler
7	04021-05	Nut, Center Lock 3/8-16
8	04019-04	Nut, Serrated Flange 3/8-16
9	04063-03	Key, 1/4 x 1/4 x 2-1/2"
10	04003-02	Bolt, Carriage 1/4-20 x 3/4"
11	484620	Muffler, Kawasaki FS/FX
12	483514	Cap
13	483438	Reservoir Assembly (incl item #12)
14	04017-05	Bolt, Hex Head, Serrated Flng 1/4-20 x 3/4"
15	484664	Hose, RH Transmission
16	48136-13	Clamp, 0.69" Max Dia.
17	484663	Hose, LH Transmission
18	48136-05	Clamp, 0.87" Max Dia.
19	04001-196	Bolt, Hex Head 5/16-18 x 6-1/2"
20	04003-04	Bolt, Carriage 5/16-18 x 1"
21	43282	Spacer
22	04110-01	U-Nut, 1/4-20
23	04021-08	Nut, Elastic Stop 1/4-20
24	04003-12	Bolt, Carriage 5/16-18 x 3/4
25	04019-02	Nut, Serrated Flange 1/4-20
26	425923	Fan Cover, RH
27	425922	Fan Cover, LH
28	425778	Skid Plate
29	04017-16	Cpscrw, 5/16-18 x 3/4"Serrated Flange HH
30	04019-03	Nut, Serrated Flange 5/16-18
31	04001-49	Bolt, Hex Head 5/16-18 x 3"

Ref. No.	Part No.	Description
32	04001-135	Bolt, Hex Head 3/8-16 x 1-3/4"
33	04043-04	Flatwasher, 3/8-.391 x .938 x .105 Hardened
34	04021-09	Nut, Elastic Stop 3/8-16
35	43720	Spacer
36	482800-04	Fitting, Transmission
37	43880	Spacer, Axle
38	484578	Belt, Transmission Drive
39	483638	Pulley, 3-1/2" Dia.
40	484576	**Transaxle Assy., (ZH-GMCC-3LUB-1MXX)
41	484577	**Transaxle Assy., (ZH-KMCC-3LUC-1MXX)
42	484595	Pulley, 4-1/2" Dia. 1" Bore
43	425954	Pusharm Mount Bracket, RH
44	04061-01	Cotter Pin, 3/32 x 1"
45	04040-14	Flatwasher, 1/4-.312 x .750 x .065
46	482070	Spring, Dump Valve Link
47	04069-01	Pin, Rue Cotter 3/8" Dia.
48	43876	Joint, Swivel
49	44188	Link, Dump Valve
50	462012	Electric Clutch Assembly
51	04041-28	Flatwasher, 7/16-.469 x 1.75 x .25
52	04102-06	Bolt, Hex Head 7/16-20 x 3" w/t Patch
53	04030-05	Lockwasher, 7/16" spring
54	04001-51	Bolt, Hex Head 3/8-16 x 3-3/4"
55	04021-10	Nut, Elastic Stop 5/16-18
56	425953	Pusharm Mount Bracket, LH
57	425696	Bracket, Anti-Rotation
58	484682	Wheel Assembly 18 x 6.5-8 (36" Only)
	481871	Tire 18 x 6.5-8 (36" Only)
	481867	Wheel Assembly 18 x 8.5-8 (48" Only)
	481869	Tire 18 x 8.5-8 (48" Only)
59	04028-02	Wheel Nut, 1/2-20
60	04024-03	Nut, Push-On 5/16-18
61	484600	Spring, RTN

* Available through the individual engine manufacturer.

** RTN Spring is Scag p/n 484600. See item #61

STEERING CONTROLS

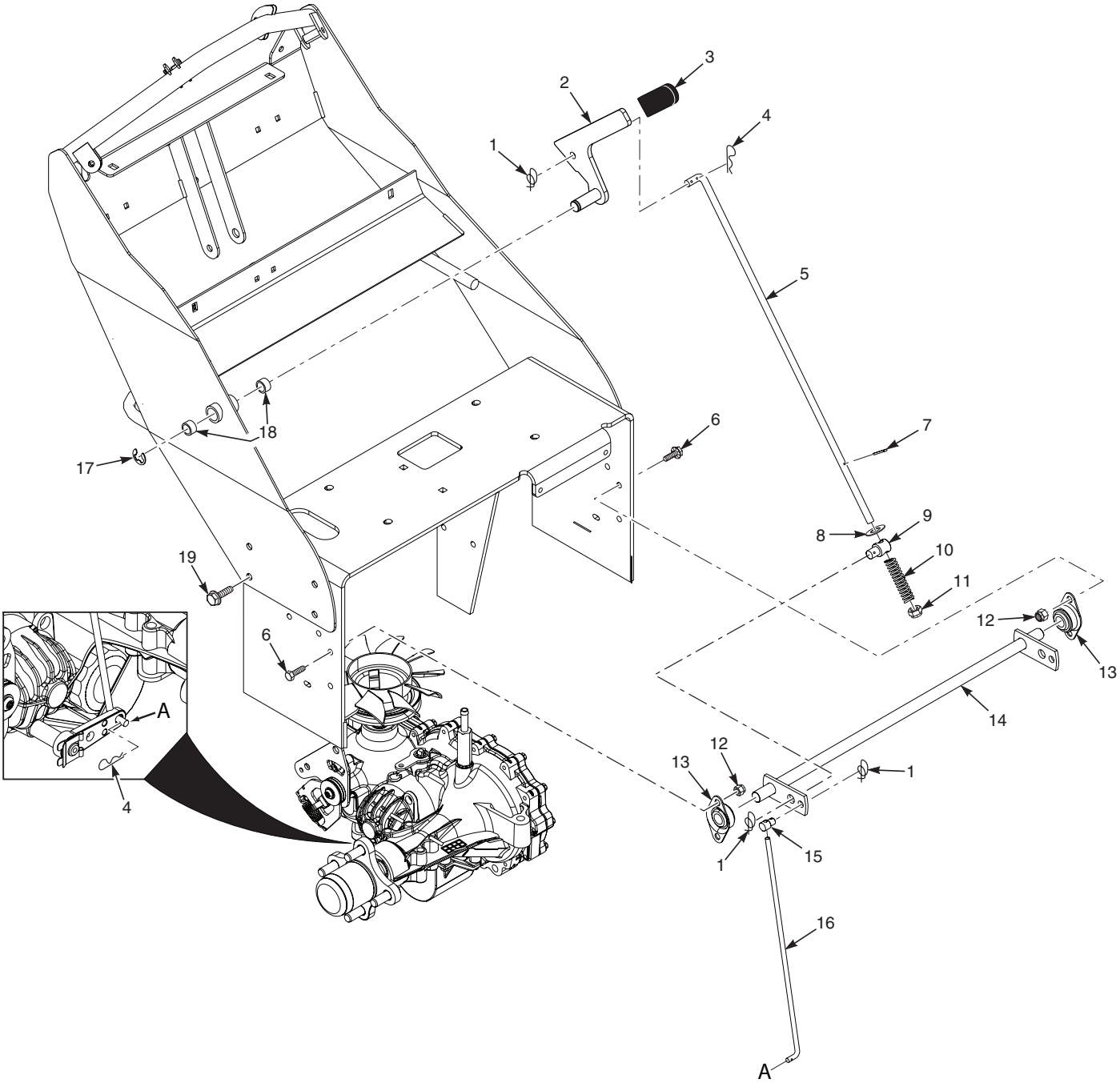


STEERING CONTROLS

Ref. No.	Part No.	Description
1	04021-09	Nut, Elastic Stop 3/8-16
2	484589	Linkage, Speed Control
3	43674	Spacer
4	484035	Bearing
5	452363	Neutral Plate Weldment
6	04040-05	Flatwasher, 3/8-.406 x .812 x .065
7	04001-77	Bolt, Hex Head 3/8-16 x 3-1/2"
8	04019-02	Nut, Serrated Flange 1/4-20
9	48717	Switch
10	425937	Bracket, Operator Presence Switch
11	462574	Handle Assy, W/Decals
12	04010-33	Machine Screw, #10-32 x 1-1/4", Pan Head
13	484609	Latch, Thumb
14	484749	Plate, Anti-Friction
15	04032-05	Washer, 1/4" Curved Spring
16	04009-11	Bolt, Shoulder 3/8 x 1"
17	483601	Spring, Speed Control
18	462575	Neutral Handle Assy (incl item #22)
19	484672	Knob, Soft Touch
20	452118	Handle Weldment, Speed Control
21	04019-03	Nut, Serrated Flange 5/16-18
22	483453-19	Bearing, Plastic 1/2" I.D.
23	04001-20	Bolt, Hex Head 3/8-16 x 1-1/2"
24	04003-09	Bolt, Carriage 1/4-20 x 1-1/4"
25	04001-12	Bolt, Hex Head 5/16-18 x 1-3/4"
26	04021-10	Nut, Elastic Stop 5/16-18
27	04021-01	Nut, Elastic Stop #10-32
28	04009-14	Bolt, Shoulder 3/8 x .375"

Ref. No.	Part No.	Description
29	04021-08	Nut, Elastic Stop 1/4-20
30	04040-15	Flatwasher, 5/16-.375 x .875 x .083
31	425948	Bracket, Neutral Switch
32	04009-16	Bolt, Shoulder 1/2 x 2"
33	484670	Spring, Operator Presence
34	462494	Handle, Op. Presence-LH (incl item #35)
	462495	Handle, Op. Presence-RH (incl item #35)
35	483453-22	Bearing
36	43866	Sleeve, Pivot
37	462489	Handle Assembly-LH (incl item #35)
	462490	Handle Assembly-RH (incl item #35)
38	04001-21	Bolt, Hex Head 3/8-16 x 1-3/4"
39	484579	Linkage, Steering
40	04017-16	Cpscrw, 5/16-18 x 3/4"Serrated Flange HH
41	425756	Bracket, Transaxle Control
42	04001-45	Bolt, Hex Head 3/8-16 x 2"
43	04030-04	Lockwasher, 3/8" Spring
44	04041-07	Flatwasher, 3/8-.391 x .938 x .105
45	48796	Bearing, Self Aligning 5/8" I.D.
46	483574	Linkage, Pump
47	452300	Weldment, Bellcrank-LH
	452301	Weldment, Bellcrank-RH
48	43766	Spacer, Axles
49	04001-09	Bolt, Hex Head 5/16-18 x 1"
50	04050-01	Retaining Ring .625" EXT. "E"
51	484671-01	Bearing
52	04003-02	Bolt, Carriage 1/4-20 x 3/4"
53	04043-04	Flatwasher, 3/8-.391 x .938 x .105 Hardened

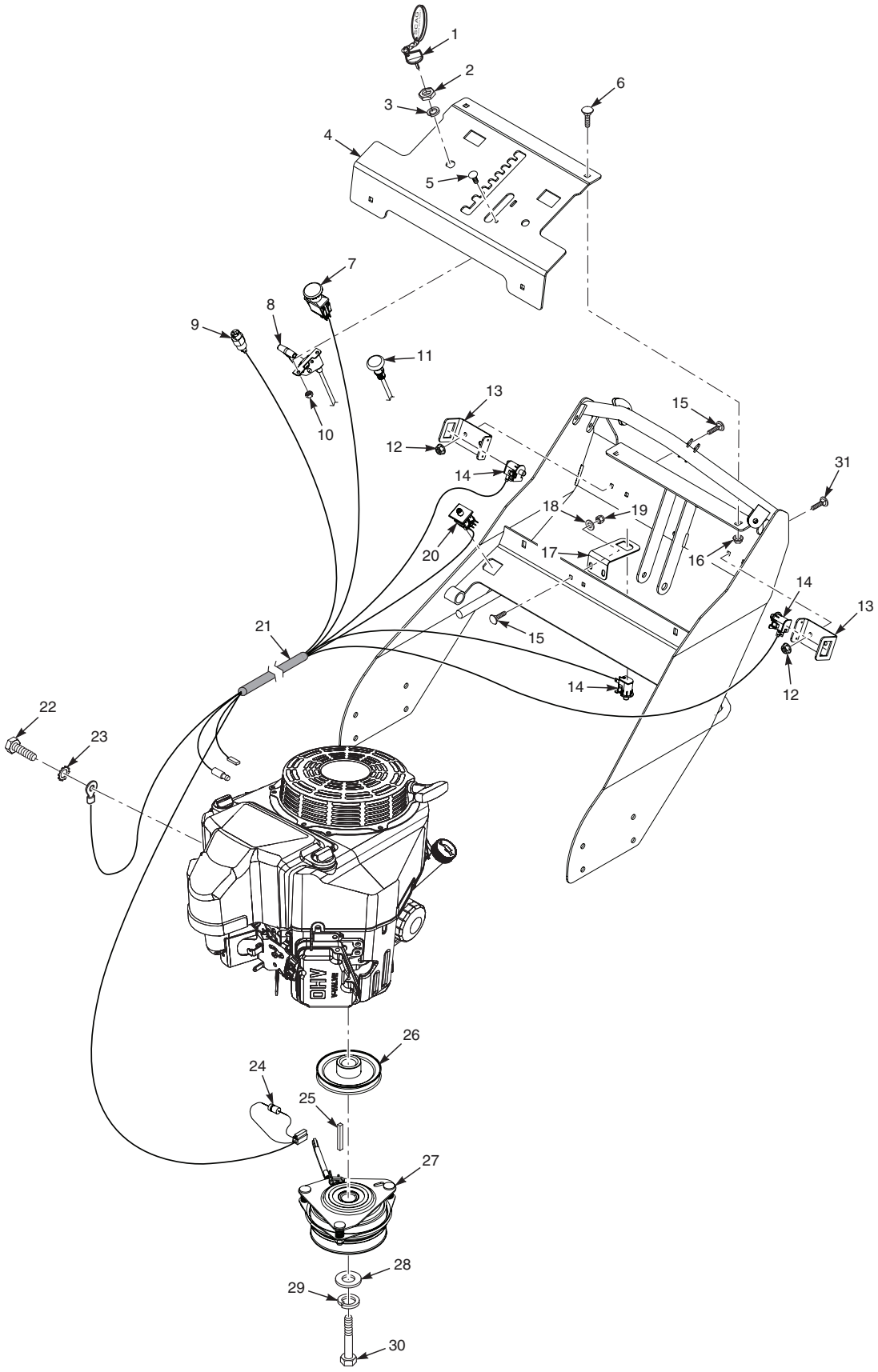
BRAKE COMPONENTS



BRAKE COMPONENTS

Ref. No.	Part No.	Description
1	04069-01	Pin, Rue Cotter 3/8" Dia.
2	462515	Brake Lever w/Grip
3	481548	Grip, Brake Lever
4	04062-02	Hair Pin, .080 x 1.19"
5	44187	Rod, Brake Linkage
6	04017-16	Cpscrw, 5/16-18 x 3/4"Serrated Flange HH
7	04061-02	Cotter Pin, 3/32 x 3/4"
8	04040-05	Flatwasher, 3/8-.406 x .812 x .065
9	43751	Bushing, Pivot Slide
10	484175	Spring, Brake
11	04021-18	Nut, Elastic Stop 3/8-24
12	04021-10	Nut, Elastic Stop 5/16-18
13	48796	Bearing, Self Aligning 5/8” I.D.
14	452358	Weldment, Brake Bellcrank
15	43726	Joint, Swivel
16	44165	Rod, Brake Adjustment
17	04050-01	Ring, Retaining 5/8” External “E”
18	483453-18	Bearing
19	04017-27	Cpscrw, 3/8-16 x 1"Serrated Flange HH

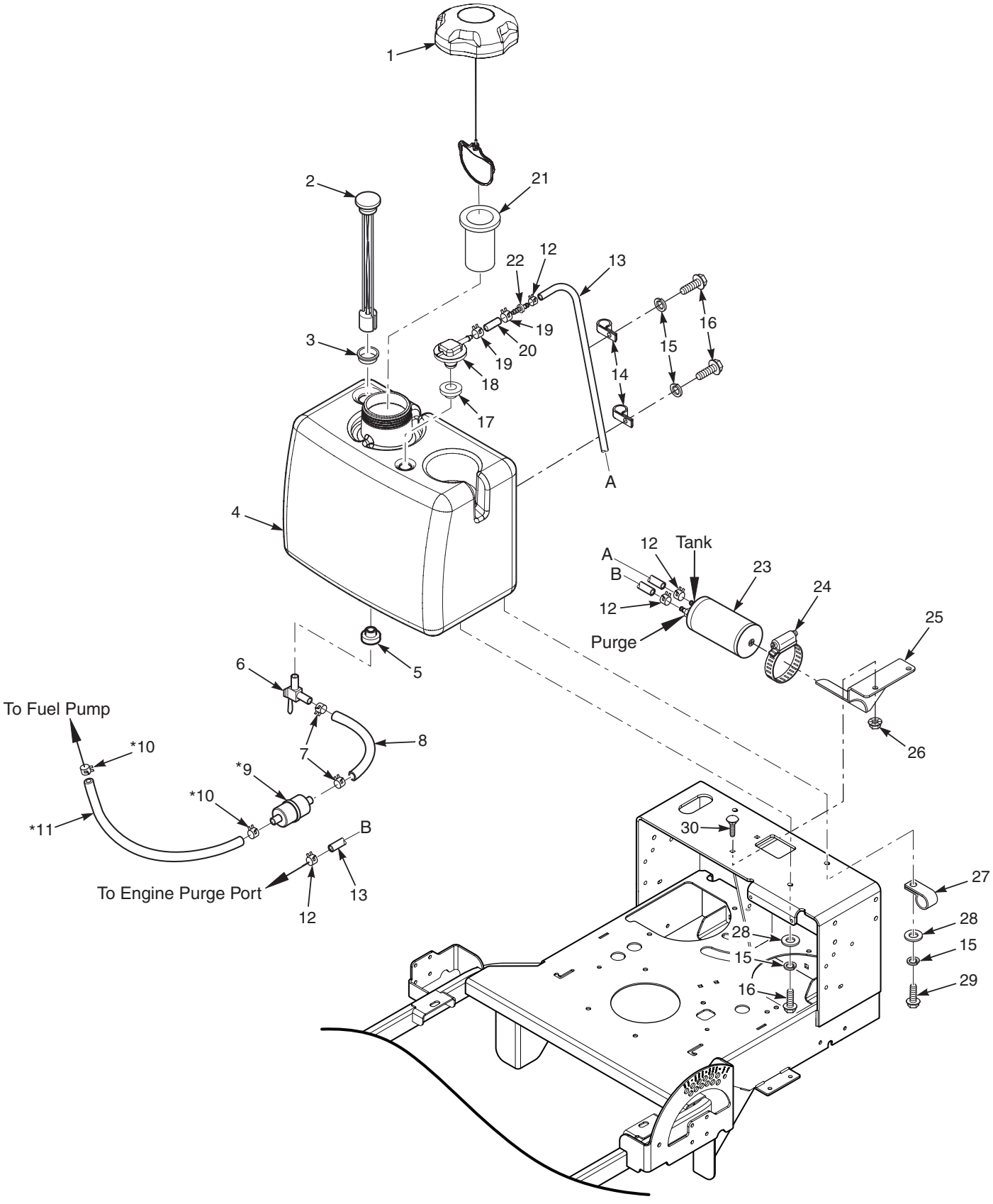
ELECTRICAL SYSTEM AND THROTTLE CONTROL



ELECTRICAL SYSTEM AND THROTTLE CONTROL

Ref. No.	Part No.	Description
1	462069	Key Assembly w/Fob
	483609	Key w/Shroud
2	48017-04	Nut, 5/8-32 Special
3	48017-03	Lockwasher, 5/8" Internal Tooth
4	462576	Instrument Panel w/Decal
5	04003-43	Bolt, Carriage #10-24 x 1/2"
6	04003-12	Bolt, Carriage 5/16-18 x 3/4"
7	483957	PTO Switch
8	484665	Throttle Cable
9	48609	Key Switch
10	04021-26	Nut, Elastic Stop #10-24
11	483552	Choke Control
12	04019-02	Nut, Serrated Flange 1/4-20
13	425937	Bracket, Operator Presence Switch
14	48717	Switch
15	04003-02	Bolt, Carriage 1/4-20 x 3/4"
16	04019-03	Nut, Serrated Flange 5/16-18
17	425948	Bracket, Neutral Switch
18	04040-15	Flatwasher, 5/16-.375 x .875 x .083
19	04021-08	Nut, Elastic Stop 1/4-20
20	483473	Switch, Brake Interlock
21	484625	Wire Harness
22	04002-17	Bolt, Hex Head M8-1.25 x 14
23	04031-03	Lockwasher, 5/16" External Tooth
24	483958	Diode
25	04063-03	Key, 1/4 x 1/4 x 2-1/2"
26	484595	Pulley, 4-1/2" Dia. 1" Bore
27	462012	Electric Clutch Assembly
28	04041-28	Flatwasher, 7/16-.469 x 1.75 x .25
29	04030-05	Lockwasher, 7/16" spring
30	04102-06	Bolt, Hex Head 7/16-20 x 3" w/t Patch
31	04003-09	Bolt, Carriage 1/4-20 x 1-1/4"

SWZT FUEL SYSTEM

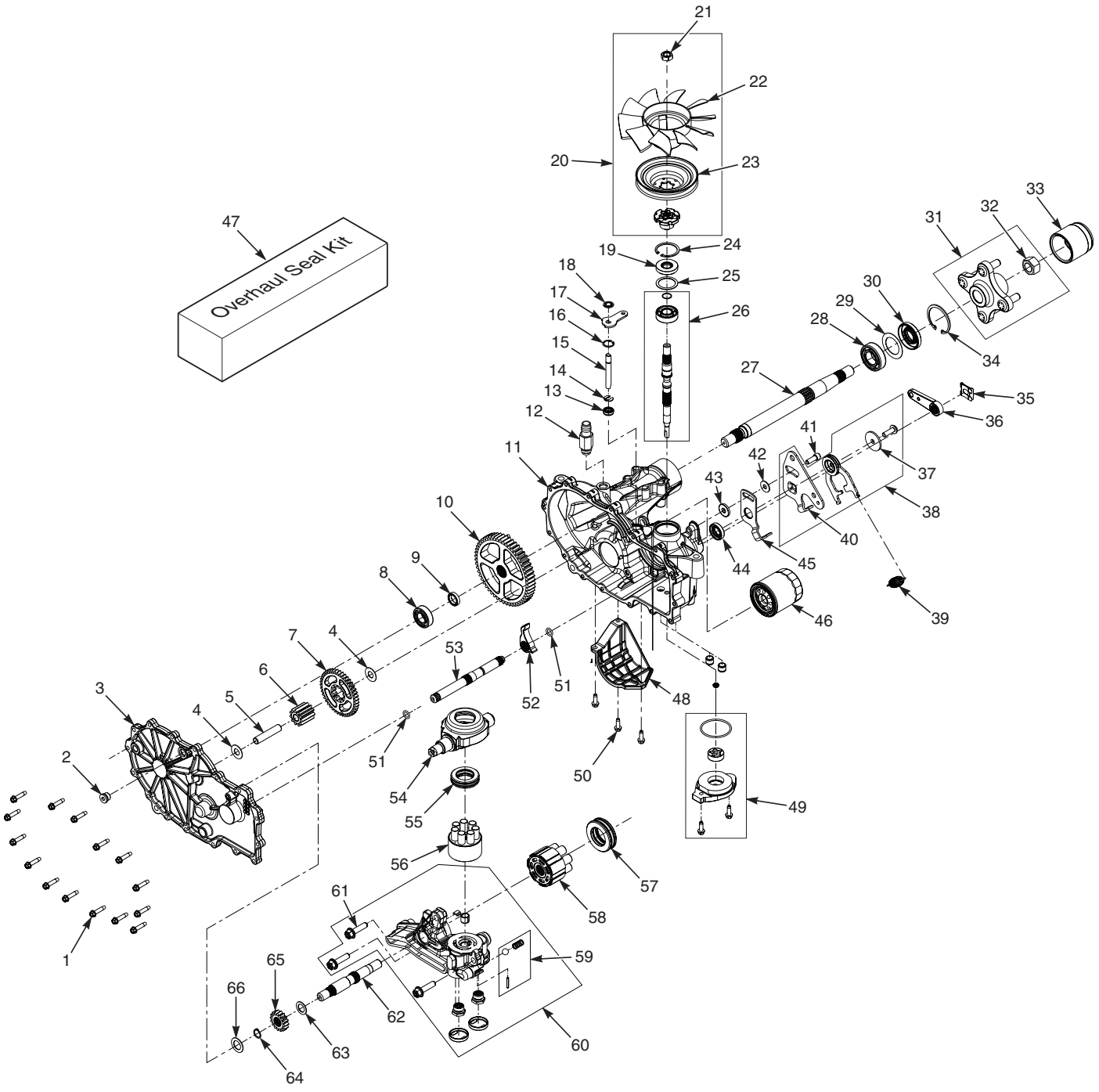


SWZT FUEL SYSTEM

Ref. No.	Part No.	Description
1	484286	Fuel Cap w/ Tether
	484297	Fuel Cap w/ Tether - California Models Only (not shown)
2	484259	Fuel Gauge Assembly (incl. #3)
3	484242	Seal, Fuel Gauge
4	462375	Fuel Tank Assembly (incl. #2, 3, 5, 6, 17, 18)
5	482571	Bushing, .56 Dia. Viton
6	483747	Ball Valve w/Screen
7	48059-01	Clamp, Fuel Hose
8	483617	Fuel Hose, 1/4" ID (order by inch)
9	*	Fuel Filter
10	*	Clamp, Fuel Hose
11	*	Fuel Hose
12	48059-05	Clamp, Vapor Recovery Hose 3/16"
13	484345	Hose, Vapor Recovery 3/16" (order by inch)
14	48030-22	Clamp, 3/8"
15	04030-03	Lockwasher, 5/16" Spring
16	04001-08	Bolt, Hex Head 5/16-18 x 3/4"
17	484285	Grommet, Viton
18	484333	Fitting, Remote Vent
19	48059-02	Clamp, Fuel Hose 7/32" ID
20	484347	Hose, Vapor Recovery 1/4" (order by inch)
21	484279-01	Tube, Fuel Tank Insert - 4"
22	484343-01	Mender, 1/4 x 3/16 w/.02 Hole
23	484287	Carbon Canister
24	48136-17	Clamp
25	452176	Bracket, Canister Mounting
26	04019-03	Nut, Serrated Flange 5/16-18
27	48030-09	Clamp, 1/2"
28	04040-15	Flatwasher, 5/16-.375 x .875 x .083
29	04001-09	Bolt, Hex Head 5/16-18 x 1"
30	04003-12	Bolt, Carriage 5/16-18 X 3/4"

* = Available through engine manufacturer only.

ZT-2800 HYDRAULIC AXLE ASSEMBLY



ZT-2800 HYDRAULIC AXLE ASSEMBLY

Ref. No.	Part No.	Description
1	HG53246	Bolt, Hex Head 1/4-20 x 1-1/8"
2	HG9005110-5600	Plug, 9/16-18
3	HG71574*	Kit, Side Cover *
	HG71572**	Kit, Side Cover **
4	HG50132	Washer, .5 x 1.0 x .03
5	HG51083	Jackshaft Pin
6	HG52583	Gear, 11T
7	HG52148	Gear, 43T
8	HG44121	Bearing, Ball .75 x 40 x 12
9	HG53336	Spacer, .75 x 1.32 x .257
10	HG52108	Gear, 54T
11	HG71421*	Kit, Housing *
	HG71413**	Kit, Housing **
12	482800-04	Fitting, Transmission
13	HG51626	Seal, Lip .375 x .75 x .25
14	HG51628	Ring, .Retaining .375 External
15	HG52136	Rod, By-Pass
16	HG51627	Ring, Retaining .750 Internal
17	HG51629	Arm, By-Pass
18	HG51630	Ring, .Retaining .375 External
19	HG51161	Seal, Lip 17 x 40 x 7
20	HG72124	Kit, Fan & Pulley
21	HG51244	Nut, Hex Locking 1/2-20
22	HG53821	Fan
23	HG53804	Pulley
24	HG50329	Ring, Retaining 2.06 Internal
25	HG50951	Washer, 1.23 x 1.56 x .04
26	HG71442	Kit, Shaft, Input
27	HG71569	Kit, Shaft, Axle
28	HG53656	Bearing, Ball 1.0 x 52 x 15 Open
29	HG53514	Spacer, 1.355 x 2.035 x .021
30	HG53699	Seal, Lip TC4 1.0 x 2.06 x .38
31	HG71446	Hub Kit
32	HG50863	Nut, Hex Locking
33	HG53501	Cap, Axle
34	HG50859	Ring, Retaining 2.06 Internal

Ref. No.	Part No.	Description
35	HG52027	Clip, Retaining
36	HG53973	Handle, Brake
37	HG51950	Washer, .343 x 1.5 x .062
38	HG71594*	Kit, RTN Assembly *
	HG71589**	Kit, RTN Assembly **
39	484600	Spring, RTN
40	HG51842*	Arm, Control *
	HG51841**	Arm, Control **
41	HG51616	Bolt, 5/16-24 x 7/8" Patch
42	HG44130	Washer, .34 x .88 x .06
43	HG52527	Spacer, .320 x 1.005 x .150
44	HG51140	Seal, Lip 12 x 32 x 7
45	HG72432*	Arm, Neutral *
	HG72431**	Arm, Neutral **
46	HG52114	Filter
47	HG71410	Seal Kit
48	HG53644*	Filter Guard *
	HG53655**	Filter Guard **
49	HG72274	Kit, Charge Pump
50	HG50752	Bolt, 1/4-20 x 3/4"
51	HG51804	O-Ring
52	HG52766	Pawl, Brake
53	HG53539	Shaft, Brake
54	HG51048	Trunnion Swashplate
55	HG50551	Thrust Bearing
56	HG70723	Kit, Cylinder Block
57	HG51462	Thrust Bearing
58	HG71579	Kit, Motor Cylinder Block
59	HG71436	Kit, Charge Relief
60	HG72412*	Kit, Center Section *
	HG72413**	Kit, Center Section **
61	HG52137	Bolt, Hex Head 3/8-16 x 1-1/2" Patch
62	HG52150	Shaft, Motor
63	HG51069	Washer, .72 x 1.16 x .04
64	HG44145	Ring, Retaining
65	HG52149	Gear, 16T
66	HG44371	Washer, .63 x 1.0 x .05

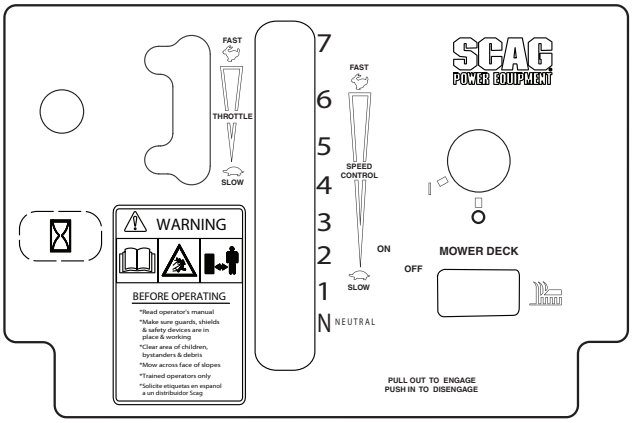
- NOTE -

Refer to label on transaxle for identification

*ZH-KMCC-3LUC-1MXX

**ZH-GMCC-3LUB-1MXX

REPLACEMENT DECALS AND INFORMATION PLATES



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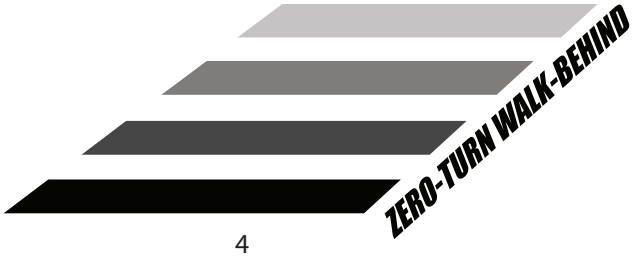
2

3

WARNING
ROTATING BLADES AND BELTS
* Keep hands, feet & clothing clear
* Keep all guards in place
* Shut off engine & disengage blade clutch before servicing
* Use caution in directing discharge
* Read instruction manual before operating
DO NOT OPERATE UNLESS GRASS CATCHER, MULCHING KIT OR DISCHARGE CHUTE IS INSTALLED
483406

5



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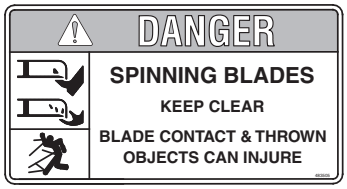

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11

WARNING
Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.
483900

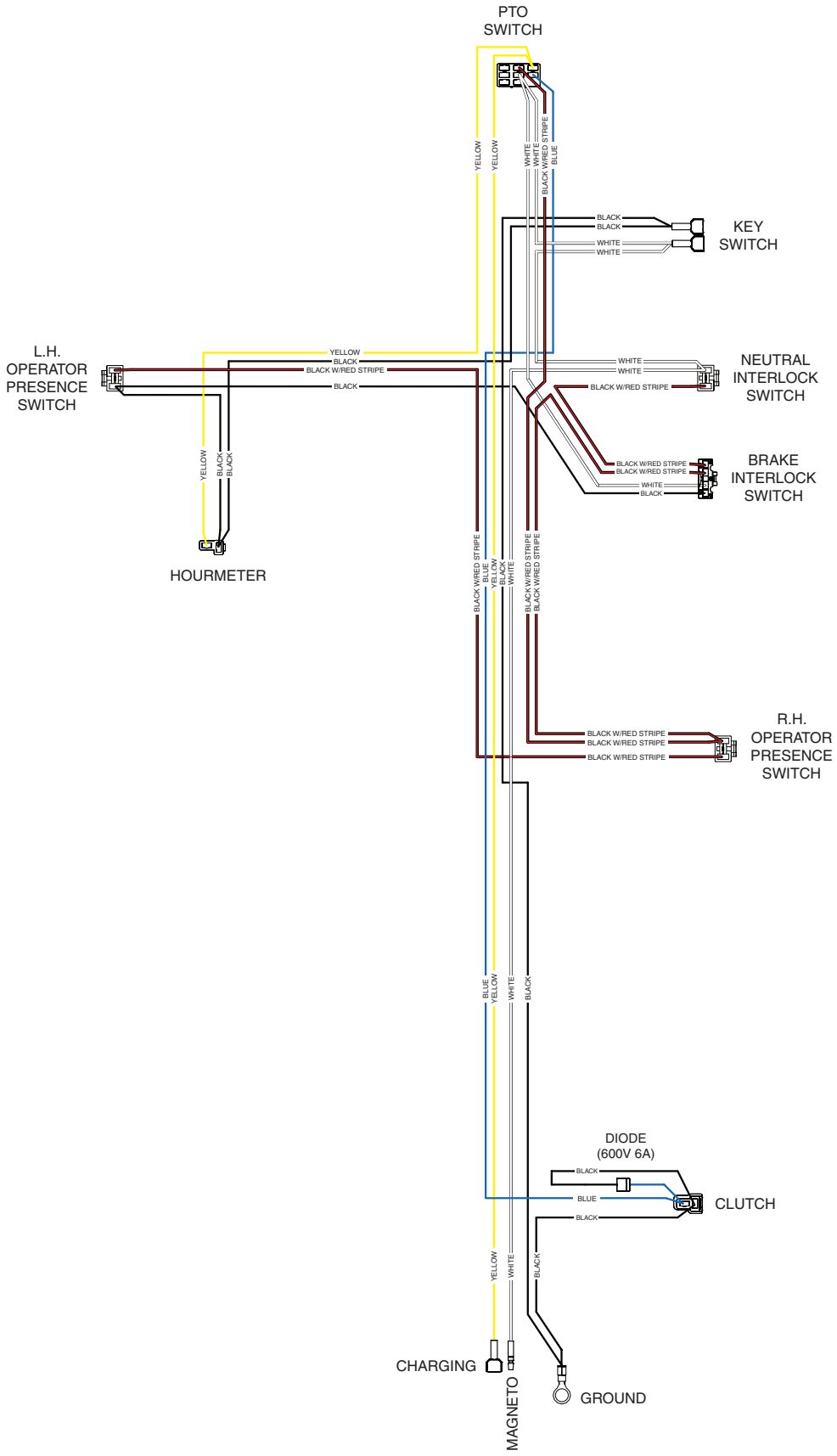
12
(supplied with California models only)

14

REPLACEMENT DECALS AND INFORMATION PLATES

Ref. No.	Part No.	Description
1	484662	Decal, Instrument Panel
2	48314	Decal, Scag Logo
3	483402	Decal, Belt Cover
4	484673	Decal, Handle - LH
	484674	Decal, Handle - RH
5	483406	Decal, Warning-Rotating Blades
6	48404	Decal, Metalcraft - Made in USA
7	483710	Decal, 36 Commercial
	483494	Decal, 48 Commercial
8	484453	Decal, Scag Heavy Duty
9	483505	Decal, Spinning Blades
10	483404	Decal, Sulky Attachment
11	483727	Decal, Scag Logo
12	483900	Decal, Warning Spark Arrestor
13	484661	Decal, Height of Cut
14	483405	Decal, Warning
*	461986	Spanish Decal Kit (not shown)

SWZT ELECTRICAL SCHEMATIC



LIMITED WARRANTY - COMMERCIAL EQUIPMENT

Any part of the Scag commercial mower manufactured by Scag Power Equipment and found, in the reasonable judgment of Scag, to be defective in materials or workmanship, will be repaired or replaced by an Authorized Scag Service Dealer without charge for parts and labor during the periods specified below. This warranty is limited to the original purchaser provided the product was purchased from an Authorized Scag Power Equipment Dealer and is not transferable. Proof of purchase will be required by the dealer to substantiate any warranty claims. All warranty work must be performed by an Authorized Scag Service Dealer.

This warranty is limited to the following specified periods from the date of the original retail purchase for defects in materials or workmanship:

- Wear items including drive belts, blades, hydraulic hoses and tires are warranted for ninety (90) days.
- Batteries are covered for ninety (90) days.
- Frame and structural components including oil reservoir and oil coolers are warranted for two (2) years (parts and labor) for commercial use or three (3) years / 500 hours (whichever comes first) (parts and labor) for non-commercial use.
- Cutter decks are warranted against cracking for a period of three (3) years. (parts and labor 1st and 2nd year; parts only 3rd year.) The repair or replacement of the cutter deck will be at the option of Scag Power Equipment. We reserve the right to request components for evaluation. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
- Engines and electric starters are covered by the engine manufacturer's warranty period.
- Major drive system components are warranted for two (2) years (parts and labor) for commercial use or three (3) year / 500 hour (whichever comes first) (parts and labor) for non-commercial use by Scag Power Equipment. (commercial and non-commercial warranty excludes fittings, hoses, drive belts). The repair or replacement of the hydraulic pump or hydraulic motor will be at the option of Scag Power Equipment. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
- Electric clutches have a Limited Warranty for two (2) years (parts and labor) for commercial use or three (3) year / 500 hours (whichever comes first) (parts and labor) for non-commercial use.
- Spindle assemblies have a Limited Warranty for three years (parts and labor 1st year and 2nd; parts only 3rd year).
- Any Scag product used for rental purposes is covered by a 90 day warranty.

The Scag mower, including any defective part must be returned to an Authorized Scag Service Dealer within the warranty period. The expense of delivering the mower to the dealer for warranty work and the expense of returning it to the owner after repair will be paid for by the owner. Scag's responsibility is limited to making the required repairs and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Scag mower. "Non-Commercial" use is defined as a single property owner, where the single property is the residence of the owner of the mower. If the mower is cutting more than the owners single property, it is deemed commercial use and the "non-commercial" warranty does not apply. Scag Power Equipment reserves the right to deny and / or void the non-commercial warranty if it believes it to be in commercial use.

This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual. The warranty does not apply to any damage to the mower that is the result of improper maintenance, or to any mower or parts that have not been assembled or installed as specified in the Operator's Manual and Assembly Manual. The warranty does not cover any mower that has been altered or modified, changing performance or durability. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the reasonable judgment of Scag, are either incompatible with the Scag mower or adversely affect its operation, performance or durability.

Scag Power Equipment reserves the right to change or improve the design of any mower without assuming any obligation to modify any mower previously manufactured. All other implied warranties are limited in duration to the two (2) year for commercial use, three (3) years / 500 hour for non-commercial use or ninety (90) days for mowers used for rental purpose. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate two year, three year / 500 hour or ninety day warranty period. Scag's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and Scag does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Scag assumes no responsibility for incidental, consequential or other damages including, but not limited to, expense for gasoline, expense of delivering the mower to an Authorized Scag Service Dealer and expense of returning it to the owner, mechanic's travel time, telephone or telegram charges, rental of a like product during the time warranty repairs are being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the mower, loss of time or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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